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The Prevention of Swarming

Keeping Colonies of Bees Strong and yet Avoiding Their Swarming is One of the Beekeeper's Biggest Tasks.

By Grant D. Morse, Ph. D.

"I don't want strong colonies," one beekeeper said to me a few years ago, "for no sooner do they become strong in numbers than they swarm."

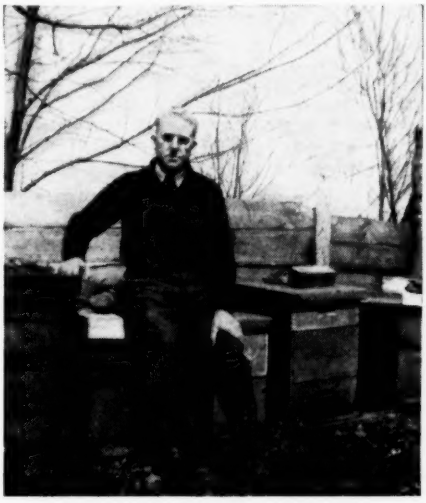
He's not the only beekeeper who ever had that thought. I know of one professional beekeeper earning his living from producing honey who methodically attempts to keep his colonies down to moderate strength during a good part of the year—and he might be right, but I don't think so.

A strong colony of bees will make more honey than a numerically weak one, other factors being equal. That's one fact we don't have to theorize about. Furthermore, if a colony becomes strong at swarming time, its inclination to swarm is greatly increased. That, too, needs no proof. There are three alternatives open to the operator: keep the colonies weak; prevent their becoming strong just at swarming season; or, let them wax strong and strive to outfox them in their yielding to the swarming impulse.

I wont go into the first of the three alternatives; most of you wouldn't be interested in the practice. The second alternative is splendid if you can manage it, but as the kids say, "Try and do it!" So I'd suggest, if you want honey, build strong colonies. Then try to keep them from swarming. Can it be done?

The Avoidance of Swarming is Worth Trying

To begin with, the bees must have room. The queen must have plenty of worker cells in which to lay. A prolific queen, supported by an adequate force of workers, will lay more eggs than can be accomodated in one ten-frame hive body in which there is a normal quantity of sealed brood, honey, and pollen—to say nothing of the normal area of drone cells. So give them two hive bodies. Is that enough? I have never yet seen a queen who needed more than 20 normal frames—provided these frames are not honey-bound. I'd like to see such a queen. Maybe I shall sometime see one. But merely giving a queen the run of 20 frames doesn't mean she can or will use all of them for egg laying purposes.



Grant D. Morse

The workers almost invariably fill

the upper comb space with honey. The queen seems to dislike laying eggs in the lower combs, or in the outside combs. The queen avoids putting eggs into the new white combs. Much space, usually in the lower combs, is filled with pollen. These facts, and others, materially reduce the area in which the queen likes to work. And from what we can observe, any feeling of restriction on her part may lead to swarming.

In addition to these factors, we are led to believe from observation that when a large force of young bees is present in the hive in the midst of a honey flow, the colony is encouraged to divide its forces—perhaps because it feels cramped, but more likely because these are the conditions which prompt it instinctively to re-enact an age-old custom. For those are the conditions under which successful perpetuation of the bee life has taken place during past ages. We believe, too that swarming occurs much more frequently during one part of a honey flow than at another. Locality has something to do with this matter, but generally speaking, if a colony can get past the first quarter of a honey flow, its inclination to swarm during the latter three quarters—even if the flow be extensive—is not so great. This tendency, too, seems logically a part of the honey bee's tradition. Year in and year out a colony would be more successful in perpetuating itself if it swarmed during the first quarter of the honey flow. Many an operator knows from bitter experience that the presence of young queens—even new queens—in his hives at the beginning of the flow will not of itself prevent swarming in some seasons. Observation confirms how correct the bees are in their action at such times.

The Use of Manipulation to Avoid Swarming

With these facts as part of the background essential to an understanding of what is involved in swarming, let us see what we can do to deter them. To be sure we must look first to the quality and age of the queen. Not all old queens are valueless. But I know from rather careful observation that the queens that normally head producing colonies for me are the queens that were raised by the colonies themselves the same season, or the latter half of the preceding season. How to manage to get such queens throughout my colonies, I confess I haven't found out. I've often thought that one good way would be to go through my hives and kill the queens wholesale during the latter quarter of the main honey flow. Have any of you ever tried that? Personally I question the wisdom of wholesale introduction of queens. To be sure, it is all right in the few cases where necessity compels it.

Next, I believe in clipping queens. For one matter, clipping serves to identify queens and indicate their ages. Further, it slows up swarming in a bad season to the point where the operator can save the situation if other treatment has failed. In my own case I do not care to risk losing my bees in a bad swarming period by failure to go through them in search of cells. If my queens are clipped, I have about ten days leeway in which to catch up with them. The idea that the giving of room is adequate to prevent swarming is, I believe, far from the whole truth. It works some years and for part of the season nearly every year.

Reversing as a Method of Swarm Prevention

One of the simplest manipulations in an effort to prevent swarming is what is called "reversing," that is, merely interchanging the positions of the two hive bodies of a colony at swarming time. I do not positively know its value, for I have never tried it with half of my colonies only. I believe it reduces swarming, but have never proved it. I do know that shortly after the hive bodies are reversed, the queens devote most of their egg-laying efforts to the upper hive body, but actually no material relief from crowding is afforded. I know that the practice is rather generally followed.

The most effective way to prevent swarming is to remove the sealed brood from the brood nest. But doing that successfully involves more than at first meets the eye. If colonies vary in strength, and the weaker ones are actually in need of bees, the exchange of frames is a benefit to both. Some operators try to "take the pressure off" the more populous colonies by starting or strengthening nuclei. That helps both. But, more often the

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Methyl Bromide for Wax Moth Control

By G. F. Townsend

The present commonly used methods for wax moth fumigation have many serious drawbacks. Few of the methods now in use will destroy the eggs, and most of the fumigants are very dangerous either from the standpoint of a fire hazard or the safety of the beekeeper.

Several new fumigants were tested at the Ontario Agricultural College. The required concentration and value of each was calculated (see Gleanings in Bee Culture, March, 1940). It was concluded at that time that Methyl Bromide showed the greatest promise for wax moth control. Since then this compound has been used by a number of commercial beekeepers with success, and practical methods of application have been adopted.

Methyl Bromide is a colorless gas at ordinary temperatures. For commercial use, the gas is compressed and stored in containers as a liquid, which immediately vaporizes upon release, as the boiling point is 40°F. It can be used in cool weather owing to this low boiling point, but is most efficient at temperatures above 65°F. This compound is nonflammable. Owing to its great penetrating powers, Methyl Bromide is very toxic to the eggs of the wax moth as well as the larvae. The toxic effect takes the form of a slow chemical process within the body of the insect. As a result, the larvae will sometimes show signs of life for several days after the room has been aired.

While every precaution should be taken when handling Methyl Bromide, it is not as dangerous as Cyanogas. Its slow action enables the operator to escape from the room in the case of an accident. It must be remembered at all times, however, that this is a deadly fumigant and there have already been several fatalities through the use of faulty gas masks, etc.

Although Methyl Bromide is heavier than air, it does not seem to stratify to the same extent as other heavy fumigants.

Tests carried out at Guelph and at the Dow Chemical Company, Midland, Michigan, indicate that after a reasonable treatment there is neither residue, taste, nor odor left on fumigated honey or beeswax. A number of commercial comb honey producers in Ontario are now using Methyl Bromide to destroy the eggs on comb honey sections before wrapping. Care should be taken to see that the liquid is not sprayed on to the sections, and

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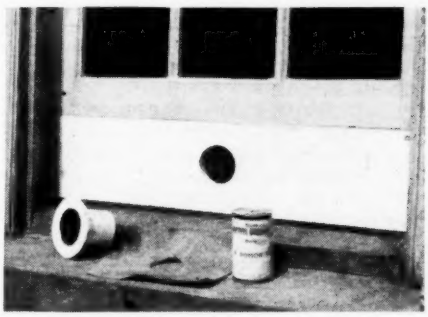
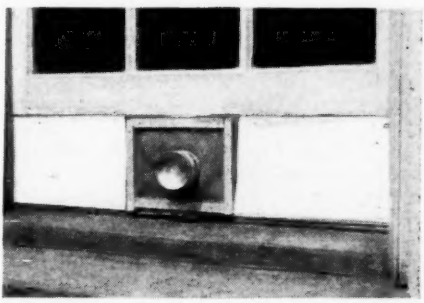
The applicator showing the strip across one end.



The equipment before assembling



Everything is placed ready to admit the gas.

The Nosema Problem

By E. F. Phillips

The protozoan parasite Nosema apis has given rise to one of the most interesting problems of beekeeping. Since the discovery of this organism by the German investigator, Dr. Enoch Zander, in Bavaria in 1909, it has been found widely distributed. At certain stages of its life history it invades cells of the stomach wall of the adult bee and the microscopic appearance of such cells suggests that the organism may do much damage to bees. All manner of conditions have been attributed to Nosema, and it has been held responsible for dysentery, spring dwindling and queen supersedure and for about all other abnormal conditions of adult bees, even including erroneously at one time the Isle of Wight disease.

The seriousness reported for the Isle of Wight disease, combined with the amusing error of Fantham and Porter in attributing this disease to Nosema, doubtless caused many persons to consider Nosema more serious than it is. Even as late as 1919, White stated that Nosema is the cause of a bee disease and that it can kill colonies. It is desirable here to state that all the work reported by White in 1919 was finished by 1916. In 1922 I published a circular on diseases on adult bees in which I also used the term Nosema-disease, but by that time it was possible to state that it does not cause great losses, and that because a colony may be weakened by heavy artificial infection (infestation), this is by no means proof that the organism under usual conditions ever leads to the death of a colony. Still later experiences further reduced the validity of Zander's first statements about the serious nature of the organism. Although it would seem that enough evidence had been presented to make further speculation questionable, it is timely to relate some incidents connected with this work, to clear the atmosphere as earlier factual publications seem not to have done.

During the winter after Zander's first Nosema papers appeared (1909) by good fortune Dr. G. F. White was studying in Germany. After I read Zander's papers I mailed a translation to White and arranged for him to visit Zander so that he might get information beyond what was published. American beekeepers had noticed occasional death of adult bees and had given various undefined names to such conditions, but they had not noticed losses from such conditions approaching those ascribed to Nosema in Zander's papers. When White visited him, Zander did everything possible to assist. He gave White slides, infested bees, reprints of his papers and abundant help in conferences, and lived up to his reputation for helpfulness.

In the spring of 1910 White returned home with the material from Zander and filled with alarm from Zander's reports. After we had talked the situation over, we discussed steps that might be taken to safeguard American beekeeping from the presumed ravages of this parasite. It seemed necessary to learn whether Nosema occurred anywhere in the United States, and that called for a quick survey. White demonstrated how examinations are made, but the bees brought from Germany were too dry, so to show the technique fresh bees were taken from a small apiary nearby, of course with no suspicion that they would contain Nosema, since no abnormal death of bees had been observed there. Imagine our surprise to find that the first bees examined contained Nosema spores! Further examinations showed Nosema all through the apiary, and since there was certainly no epidemic disease of adult bees in that apiary, there was already reason to suspect that Zander's claims of the disastrous nature of Nosema might be exaggerated.

It was still desirable to learn how widely distributed Nosema was in the United States, but there was now less urgency about it. Adult bees were received from all parts of the country, beekeepers being asked to send bees that behaved peculiarly. Adult bees were received in which no special death rate was noted. No publicity was given to this work since there was no justification for alarm. Nosema was not found in every sample received, but it came from all parts of the country at all times of the year. It is more abundant in the North and in spring and early sum-

mer. Sometimes Nosema was absent from bees that were reported to behave abnormally and was often present when no unusual death rate was observed. There was at least no reason to be alarmed about the possibility of the introduction of Nosema from abroad, since we had plenty of it. There are probably few apiaries that do not occasionally or usually harbor it.

Meanwhile notices of Zander's work appeared in beekeeping journals, and the name Nosema-disease became rather frequent in print. Some wrote alarmingly of the results that would come if this organism were introduced, without asking whether it was here. Since most beekeepers sending bees for examination had detected no loss, and should not become unduly frightened by anything that was told them, the question arose as to what should be reported when Nosema was found in samples of bees. To tell a beekeeper that his bees had Nosema-disease would have been an untrue statement, since his bees were not known by him or by us to be suffering from disease. All that could truthfully be said was that examinations showed interesting but not yet fully explained conditions. More would have been an untruth, not because of actual statements but because of interpretations that the beekeeper would place on the reports after the frightening speculations in the journals. That was the case back in 1912 and 1913, and it may still be considered inaccurate to report Nosema-disease when Nosema is found in bees. The problem is not solved by the use of such terminology, and in fact there is question whether the term Nosema-disease should ever be used.

Demuth and I began our work on wintering in the fall of 1912. This work and the allied physiological investigations showed that the energy of bees is conserved if bees during the broodless period are not required to produce excessive heat. This lead to the use of heavier insulation, the wide adoption of which has had a marked effect on American honey production. Any condition that enables bees to conserve energy makes them capable of rapid increase in colony strength in spring, and it gradually became clear that with proper wintering one need not fear Nosema. Methods of prevention proved satisfactory, and no remedial measures have ever been devised for Nosema. The preventive measures are not intended so much to save infested bees as to enable the colony to replace them with uninfested bees at the right time. Wintering methods commonly used in Germany are ineffective, and it is easy to understand why Zander failed to detect a connection between a spread of Nosema and poor wintering methods. Those who were then writing on Nosema were experienced in the relation of organisms to disease, and one scarcely expects such workers to detect the preventive benefits of good beekeeping. Certainly one who practices extremely poor methods would never guess that such preventive measures exist.

While the work on wintering was progressing, further work was done on Nosema, the results of which were not included in White's 1919 paper. It was learned where to expect to find Nosema, and that beekeepers using poor methods were a fertile source of Nosema infested bees. Whenever it was learned that bees of some area were storing honey-dew, it was there possible to get plenty of infested bees. Whenever conditions in an apiary were unsatisfactory from any cause, Nosema could usually be found, whereas sound beekeeping and a good honey flow gave conditions unfavorable to Nosema. Carniolan bees were almost never found free of Nosema, but in no instance was a heavy death rate found in these bees. Nosema is abundant in Carniola, yet beekeepers there report no losses.

During this period a beekeeper sent bees for examination in midwinter, reporting that he had as usual placed about 500 colonies in a cave for winter, and that all the bees were dead by the middle of December. No bees had come to the laboratory that contained more Nosema spores than these, and it would have been easy to report that they had died of Nosema-disease, or even to have published a report on the terrific devastation that this organism may cause. Fortunately another course was followed. A letter was written the beekeeper that there had been found in his bees a condition that called for further inquiry, and he was asked to send some of the stores on which these bees had been living. He was requested to remove stores from about a half inch above the clustering space and to send an ounce or so of this material.

On chemical examination this was found to contain the highest percent of dextrin that had been found in any honey-dew up to that time. It was honey-dew of the rankest type, and everybody wise in the ways of wintering bees knows that bees confined in winter on honey-dew soon die. It was then proper to report to the beekeeper that the death of his bees was explained by the nature of their winter stores, and this explanation was honey-dew. Correspondence revealed that during the previous summer for the first time in that beekeeper's experience the bees had collected honey-dew, about which he had known. To have reported that these bees died of Nosema-disease would have been untrue, for while Nosema may not have been beneficial to his bees there was abundant explanation of their death to be found in the stores.

Before I left the Bee Culture Laboratory, it seemed desirable to clarify the situation with regard to abnormalities of adult bees. Right at that time the Quebec International Congress of Beekeeping was held, so I prepared a paper on this subject for the Congress. That seemed an appropriate place for such a discussion, but the same material was not published in any of our journals or in bulletin form, which may have been unfortunate since proceedings of the Congress are not readily available. The paper was presented in English and French and was published in both languages. A beekeeper attending the Congress from abroad urged that the same material be published in German, since the most important work on Nosema had appeared in that language, and it is recognized that few German investigators bother to read papers in other languages. Later in the year a slightly shortened article appeared in the Archiv fuer Bienenkunde. The purpose of the German paper was to suggest to German investigators reasons to doubt the validity of their views about Nosema, and to show that the finding of Nosema does not necessarily imply that it will harm the colony. Bees containing Nosema show no detectable disturbance in their digestive processes, and this was a type of information that had been overlooked by those doing most work on this organism. The observations made by Demuth and myself showed that lack of proper protection and inferior stores lead to excessive heat production and that bees die in winter from such activity. When stores are poor or when bees are exposed to severe cold, cluster temperatures may rise to a point to induce egg laying, and winter brood rearing without opportunity for cleansing flights depletes their energy and may lead to their death. Nosema had not been found to cause any serious condition arising solely from the organism, whereas the organism commonly appears in colonies subjected to improper winter care. It was desirable to point out these facts especially to German investigators, chiefly because the methods of wintering used in Germany are inadequate, and most of these investigators had never seen a powerful colony of bees. As was to be expected, the Germans working in this field did not immediately accept these conclusions, but there is a sequel to this story.

The sequel developed when I visited Germany in 1932, eight years later. One day in the laboratory of Doctor Koch I found him in serious conversation with Doctor Evanius, the worker incidentally whose work I had found it necessary to criticize most severely. They asked if I proposed to visit Zander before returning home, and I replied that I expected to do so. They then told me that in the years since Zander had described Nosema, he had not changed his mind about the seriousness of this organism, and that at his age they scarcely expected him to do so. When my 1924 article had appeared, every investigator in Germany had thought that I was wrong, but since then all of them except Zander had found that I was right. They then urged that when I visited Zander I guide the conversation away from Nosema. They said that naturally I would not change my views since I was right, and they did not expect Zander to change his. They were all fond of Zander and wished our visit to be pleasant. I agreed, but when I reached Erlangen it was not easy to follow the suggestion. Zander seemed determined to discuss Nosema and several times began to get out slides and other material, perhaps hoping to convert me to the true faith. With the help of men with me, including two men of Zander's laboratory who did not agree with his views, we managed it. All

this incident suggests is that some men can change their minds, even Germans, if the evidence is sound, but it also indicates that if one now quotes the earlier work of some of these men, it will not represent their mature views.

While the tales here told are perhaps new, the observations on which conclusions are based have been published and should be known to anybody presuming to write on Nosema. Evidence so far indicates that Nosema is of secondary importance and that damage to colonies is initiated by other factors. To demonstrate a harmful effect from Nosema it is necessary to prove abnormal death of bees when other harmful factors are eliminated. The care given experimental colonies must be such as to presuppose their survival and prosperity except for the damage done by Nosema, and there must be checks. The experiments must not be confused with speculative theories of wintering, for while there is an evident and apparently inevitable relationship between wintering and Nosema, cause and effect must not be reversed. These conditions are not yet met, so it seems appropriate to rest our confidence on earlier work. Alarming reports without evidence are unwarranted. Certainly it cannot yet be assumed that Nosema is responsible for dysentery, spring dwindling and supersedure of queens, all of such claims far exceeding any claims made by Zander at his worst.

It is fun but unimportant to be able to say, "I told you so," yet it may be worth reporting that many months ago I predicted that Nosema would be used as a scapegoat for the damages done by methods of wintering advocated by those now claiming Nosema to be such a disaster to beekeeping. Such a prediction could be based only on a considerable experience with Nosema and with wintering methods, but at least the prediction was made and has been abundantly fulfilled.

Since careless reading of earlier work on Nosema has already been harmful, it must here be emphasized that this article does not state that Nosema is entirely harmless. It is stated that evidence so far presented fails to demonstrate the seriousness of Nosema as a cause of a disease. It is stated that damage from Nosema may be prevented by proper methods of wintering and that prevention is superior to treatment. Adequate preventive measures are known and are widely used. It is denied that Nosema is responsible for dysentery and spring dwindling when these names are properly used, and there is no ground for redefining these names. It is here also stated that evidence of the causal association between queen supersedure and Nosema is lacking. Perhaps the most important statement to be made is that speculation about Nosema has always been hazardous, and that there is no occasion for alarm about this interesting organism. Perhaps the best way to state the case is to say that the use of the name Nosema-disease is unwarranted.

Ithaca, New York.

JOHN CONNER

One of our really good beekeepers has given everything for his country. John Conner is reported missing in action, and the War Department gives little hope that he will return. So far as we can learn, he was on a transport sunk in the Mediterranean on April 20th, and was not accounted for among the rescued.

John went to the war because he wanted to. He was 42 years old, and could have backed out when he was called. Instead, he entered into the service of his country in the same spirit that he carried on his beekeeping. Although the Air Force is manned generally by younger men, John's enthusiasm and actual youth kept him in it, and his rating of motor expert was warranted.

He is known to beekeepers mostly for his stubbornness in advocating the top entrance as a remedy for winter losses caused by excessive moisture within the hive. He never claimed that he originated the idea, but pointed to Langstroth as his source of information.

The uncertainty of his passing keeps alive the hope that someday soon we will get good news. We are informed that the circumstances are very much against this hope. But we will carry on, and try to finish the wonderful work that he started. —E. D. Wirth.

Honey Tempters for Hot Days

By Mrs. Benj. Nielsen

Honey ham bran loaf—Photo courtesy Kellogg Co.

These first few better-than-warm days of July are just a forerunner of weeks of hot days to come—fine weather for the busy winged gatherers of nectar but a bit of a tax on their keepers and the cooks. And so in between gardening, Red Cross activities, and canning (canning so early?—yes, tiny baby buttered beets with just a suggestion of honey for flavor preservation and emphasis and crisply snapping green beans, honey canned, too)—amid all this we pull out the recipe files and dust up the old summer favorites.

Meat is one field of cookery in which honey has not been used to any great extent. Where it can be utilized, however, the results are richly satisfying. The honey ham loaf pictured here is a recipe deluxe! Unadorned for everyday, or when you are in a hurry; festive for company or Fourth of July celebration. It carries well, too, and goes to the picnic right in the pan in which it was baked. It is peerless served hot and equally good cold and sliced very thin for sandwiches.

The salad I give you here is almost a meal in itself. It serves twelve and may be prepared the day before—its flavor keeps right on improving! Reinforced with piping hot honey refrigerator rolls and honey sweetened coffee or tea, hot or iced, it makes a repast you need not hesitate to serve to the most discriminating of guests.

If you object to chocolate sauces as being too sweet do try this honey sweetened one. It is not too sweet, has a creamy texture and heavenly flavor.

Properly used in frozen mixtures, honey sweetening produces ice creams and sherbets of velvety smooth texture and superb flavor. If you wish to experiment substituting honey for the sugar or corn syrup in your favorite recipe, remember that, cup for cup, honey is twenty-five percent sweeter than cane sugar and twice as sweet as corn syrup—and proceed accordingly.

Honey Ham Bran Loaf

One pound smoked ham, ½ pound ground lean pork, ½ pound ground veal, 2 eggs, 1 cup milk, 1 cup Kellogg's All-Bran, ½ teaspoon salt, 2 teaspoons minced green pepper, ⅓ cup honey, and 1 teaspoon whole cloves.

Combine the meats with the eggs, milk, All-Bran, salt, and green pepper; mix well. Drizzle the honey in bottom of loaf pan, dot with cloves, and add the meat mixture. Bake in a moderate oven, 350 degrees F., about 1½ hours. Yield 1 loaf (5 x 9 x 3) 8 servings. Flag: strips of macaroni and pimento. Stars: macaroni.

Honey Cottage Cheese Salad

One package lemon flavored jello, 1½ cups boiling water, ⅓ cup honey, 3 teaspoons vinegar, ½ teaspoon salt, 2 cups cottage cheese, ½ cup stuffed olives, cut in small pieces, ½ cup sweet pickles (honey chunk, if possible), and 1 cup cream.

Dissolve jello in boiling water; add honey, vinegar, and salt; mix well. Let stand until the mixture begins to congeal. Add cottage cheese, olives, and sweet pickles cut in small pieces. Then fold in whipped cream. Chill thoroughly.

Honey Refrigerator Rolls

One cup boiling water, ¾ cup shortening, ⅓ cup honey, ¾ teaspoon salt, 1 cake compressed yeast, ½ cup lukewarm water, 1 cup flour, 1 cup mashed potatoes, 2 beaten eggs, and 5½ cups flour.

Combine boiling water, shortening, honey, and salt; cool to lukewarm and add the yeast, soften in lukewarm water. Mix to a smooth batter

with 1 cup flour. Then stir in mashed potatoes and eggs; let rise 2 hours or until light and bubbly. Stir in the remaining flour to make a soft dough. Knead lightly on floured surface. Let rise again in a greased bowl for about 2 hours. Punch down, cover, and place in refrigerator until ready for use. About 2 hours before serving, remove portion of dough and shape in rolls. Arrange in greased pan and let rise until very light. Bake in moderately hot oven, 400 degrees F., 20 to 25 minutes. Makes 3 to 4 dozen rolls.

Honey Orange All-Bran Tarts

One-half cup butter, ½ cup honey, ½ cup sugar, 1 egg, ½ cup Kellogg's All-Bran, 3 cups sifted flour, 3½ teaspoons baking powder, ¾ teaspoon salt, 4 tablespoons orange juice, 2 teaspoons grated orange rind, and colored sugar.

Blend butter, honey, and sugar until light and fluffy. Add egg and beat well. Add All-Bran. Sift flour with baking powder and salt and add to first mixture alternately with orange juice. Stir in orange rind. Chill. Roll out dough to about ⅛ inch thickness working with a small amount at a time and keeping the remainder chilled. Cut into fancy shapes with floured cutters; sprinkle with colored sugar and bake on greased baking sheet in moderately hot oven, 375 degrees F., about 10 minutes. Yield: 5 dozen tarts.

All-Bran Honey Wafers

One-half cup butter or substitute, ½ cup honey, ¼ cup Kellogg's All-Bran, 2 cups sifted flour, 1 teaspoon soda, ½ teaspoon cinnamon, ¼ teaspoon cloves, and ¼ teaspoon allspice.

Blend butter with honey and beat until creamy. Crush All-Bran slightly. Sift flour with soda and spices; add to first mixture with the All-Bran; mix thoroughly. Chill. Roll dough on floured board to about 1/16 inch thickness. Cut with floured cookie cutter; bake on greased baking sheet in moderate oven, 350 degrees F., about 10 minutes. Yield; 5 dozen wafers (2¼ inches in diameter). Dough is excellent for cutting fancy shaped wafers because it holds its shape.

Honey Ice Cream

Two egg yolks, ⅓ to ½ cup honey, depending upon how sweet you prefer ice cream, 1 teaspoon vanilla, few grains of salt, 2 cups light cream or top milk, and whites of two eggs.

Beat egg yolks until very light, add half of the honey slowly, beating constantly. Add vanilla, salt, and cream. Beat whites of eggs until stiff but not dry, then gradually beat in the remaining half of honey. Fold into first mixture. Freeze. When fairly firm, remove from refrigerator tray and beat with rotary or electric beater until smooth. Continue freezing. May be frozen in freezer.

Honey Chocolate Sauce

One cup milk, 2 squares unsweetened chocolate, 2 tablespoons strong black coffee, ⅓ cup honey, and 1 teaspoon vanilla.

Combine milk, chocolate, coffee, and honey in top of a double-boiler and let cook slowly for 30 minutes. When thick set aside, still over the hot water and cover closely. When needed, re-heat quickly. Stir in vanilla and serve. Serves 6.

Honey Pineapple Sherbet

Two eggs, well beaten, ½ cup honey, ½ cup lemon juice, dash of salt, 2 cups top milk, or 1 cup milk, and 1 cup light cream for a richer mixture, and 1 cup crushed pineapple.

Combine eggs, honey, lemon juice, salt, and milk or cream, mixing well. Pour into freezing tray and freeze quickly with control set for coldest position. When fairly firm, place in chilled bowl and beat with rotary or electric beater until mixture is smooth. Beat in pineapple. Return to freezing tray and continue freezing. If frozen in regular freezer add pineapple when combining other ingredients.

Aurora, Nebraska.

Honey Orange All-Bran Tarts, and Honey All-Bran Wafers—Photo courtesy Kellogg Co.

From the Field of Experience

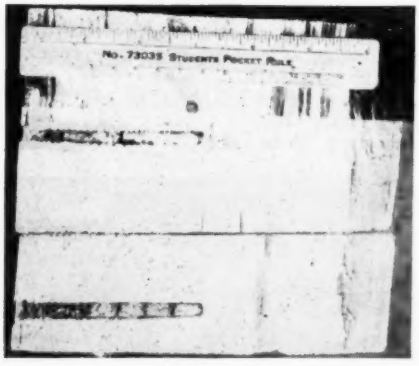
BEES AND ALFALFA SEED-SETTING

By Percy H. Wright

Often I have wondered how little interest beekeepers display in the various species of North American bees, particularly the solitary bees.

Recent investigations made in Northern Saskatchewan tend to stress greatly the role of leaf-cutting bees in the pollination of alfalfa. On the rather infertile, gray soils about Whitefox, in the northeastern part of our province, there is a sizable and growing alfalfa seed industry. It was thought that the lack of nitrates in the gray soil was chiefly responsible for the high seed-set. However, we now realize that the seed set is comparatively good also because the alfalfa fields are small areas cut into the virgin forest, and that wild bees which hatch out from holes in fallen logs do not have to fly far to find pollinating to do.

Two workers of the University of Saskatchewan, J. L. Bolton and J. Ross Colvin, have looked into the experiments of W. D. Clarke, alfalfa-seed grower 20 miles north of Whitefox, in the artificial encouragement of wild-bee population. Mr. Clarke, a veteran of the first World War, is so far north that for many years he had no settler between himself and the North Pole.



Leaf-cutting bees in artificial holes in logs on the farm of W. D. Clarke, Sask.

He bored holes four inches deep, one-quarter and nine-thirty-seconds inch, sloping slightly upward to keep out the rain, into the logs of his cabin. The leafcutter bees are dependent upon wood-eating beetles to dig the holes they lay their eggs in, and there is evidence that bee population is limited by available nesting places.

To attract these wild bees, he sprinkled the logs with salt brine, and found that this made a vast difference to the bees. Evidently salt, too, is a limiting factor. At any rate, about 50% of the holes were occupied, and frequently bees were seen fighting for possession of the same hole.

Bees caught as they emerged from the holes were sent to Ottawa, and definitely identified as species known to trip alfalfa. A parasitic species was also found, laying eggs in the same holes, and certain parasitic flies.

These investigations open up an enormous new field, that of the encouragement of high populations of wild bees for their work in pollinating field crops alone. Anything of this sort is of interest to beekeepers, of course, since it betokens the beginning of a new era of public awareness of the importance of bees in the national economy. In view of the losses of bees by insecticides and poison dusts, such an era, we all realize, cannot arrive too soon. The particular crop grown in this district of Saskatchewan, alfalfa, is not often pollinated by the honeybee under conditions of cool moist soil and moderate air temperatures, but honeybees do trip alfalfa in certain years, probably the warmer drier ones. It is thought that they trip alfalfa chiefly when in search of pollen, and that they may visit the flower for nectar without tripping it.

Moose Range, Sask., Canada.

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SAVING WEAK COLONIES IN EARLY SPRING

By E. S. Miller

I note that in May, 1944, Gleanings you express some doubt as to the feasibility of uniting a weak colony with a strong one, to be later separated. I have done this many times and find it entirely practicable provided it is done rather early in spring, say, in April, when the weather is still cool. It seems that bees are more inclined to be pugnacious

later in the season and more apt to kill the queen of a weak colony so united. Of course, it is better to separate the two queens by means of a super and two excluders, also to use a sheet of newspaper beneath the weak colony. I have tried introducing nuclei in a similar manner in midsummer for the purpose of requeening, but in each case the young queen was killed.

Valparaiso, Indiana.

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A LETTER FROM THE CHIEF

By Jas. I. Hambleton

We are writing to all the state agencies that received queens of experimental resistant stock last year appraising them of plans for the current year.

Owing to shortage of labor and some curtailment in other facilities, a few less queens will be available this spring than were sent out last year. As matters stand at the moment we will plan to send you queens as early in the season as possible. Notification prior to shipment will be sent. As in the past these queens will be untested daughters of tested mothers. No claims as to uniformity of color, nervousness, or ability to resist disease can be implied.

As is to be expected, a few reports indicate that some of the stock sent out last year did not show a high degree of resistance. For the most part, however, the stock showed up well in this respect and in any number of cases those who used the stock found it equal in honey production and other respects to the average run of good bees. Some, however, voiced complaint that the bees were too dark and inclined to sting.

Inasmuch as the stock does show superiority with respect to resistance to American foulbrood and because of the limited number of queens which can be made available each year, it would seem best that the majority of the queens get into the hands of persons who can properly propagate and disseminate the stock.

We wish also to call your attention to a particular observation that has been made on some of the resistant strains. In three widely separated localities the stock which showed good resistance to American foulbrood proved susceptible to European foulbrood. It does not necessarily follow that because a strain can handle American foulbrood it will also prove resistant to European foulbrood. The two diseases are entirely different and the bees apparently react to them differently. Persons using the American foulbrood resistant stock should be warned to be on the lookout for European foulbrood and not to take for granted that the resistant stock will also dispose of European foulbrood.

If you have not already submitted a report on the queens received last year, we would appreciate being informed as to the results obtained in your State.

Beltsville, Md.

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MORE ABOUT WINTERING QUEENS IN NUCLEI

By M. J. Deyell

The space available for the article on this subject in the June, 1944, Gleanings did not permit some details that should have been included. In wintering queens in nuclei they should be established quite early during the summer so that hive population may be sufficiently large to help insure successful wintering. The more young bees that can be produced before the cessation of brood-rearing in the fall the more likely the nuclei are to winter.

In regions where a late fall honey flow occurs it may be advisable to feed each nucleus five or six pounds of thick sugar syrup late in the fall to correct possible bad effects of late-gathered honey of an inferior quality, especially if the nuclei are wintered in cellars.

The double nuclei in outside wintering cases at Ottawa, Canada, shown on page 263 of June Gleanings, have from three to four inches of packing on the bottom and all four sides, with six or eight inches on top and an air space above the top packing.

The same requirements obtain in wintering nuclei as in wintering full colonies, viz., plenty of young bees, plenty of good food, and adequate protection against the elements.

As stated in the previous article, the two nuclei in a hive with a thin tight-fitting division-board in the center form one compact cluster during cold weather. Each nucleus resembles a hemisphere. Apparently they do this to conserve on heat. Bees are not so "dumb" after all.

SECOND GLANCES

By C. M. Isaacson

"Beekeeping's new gospel" might well be the title of Mr. Holzberlein's article, what with its emphasis on huge colonies, pollen trapping and feeding, larger brood nests, two queen colonies, and the like. His contention that effort should be made to produce more honey per colony instead of merely increasing numbers certainly states a desirable condition. And his methods do offer promise for the right locations. In a region of only ordinary honey flows, though, it is possible that equal results may not be obtained —such enormous colonies will require considerable simply to maintain themselves (and perhaps a lot of feeding in years of cold late springs). The whole article is really a plea for intensive rather than extensive beekeeping. And that 500 lb. average is an attractive mark to shoot at (page 249).

Swarm control methods are always of importance, and even more so now when many apiarists will simply not be able to take the time necessary to keep up a non-swarming strain of bees (page 253). Mr. Jessup summarizes several of the more commonly used practices. Brood equalization, reversing of brood chambers, good (dark) combs, proper ventilation, all these do help. Demareeing colonies ready to swarm often solves the problem also, but as E. S. Miller, one of the most successful users of Demareeing, has pointed out, it really should be used **beforehand** for best results. One point in the article stands out—anticipate swarming and use control methods **sooner.**

Multiple mating of queen bees has been long suspected by many to be much more common than previously reported. Nothing else would account for the make-up of some colonies we find. Mr. Robert's report (page 255) shows that a large percentage do mate more than once, and that this is a desirable condition for prolificness. Accordingly, large amounts of drones (from desirable stock) can be of definite value. Another point showing that Nature's prodigality has its underlying reasons, perhaps?

Honey flow management can make or lose a crop even if other conditions have been fulfilled. Two things that Bruce Morehouse brings out are of prime importance—adapting methods to individual and seasonal requirements, and realizing that honey-flow management starts immediately **after** the flow—for the next year. But as for the work during the actual gathering period, that does depend on many factors. Leaving a cell both above and below (after killing the old queen) works well many years (and of course better later in the season as he suggests), but in bad swarming seasons the virgin above may decamp with a swarm. Shook swarming is good for stubborn cases. And I have had a like experience with Mr. Morehouse as regards top supering—its success does depend on the season and strain of bees. Queen excluders, properly used, are a big help in control. But all in all, one sentence from the article's close tells the most—good management must be flexible (page 260).

Wintering extra queens will be of real value if the two-queen system being advocated by many comes into general use (page 263). Early shipments of Southern queens are often varible, and good wintered-over queens on hand would be worth much. That Mr. Goodenham has brought through, both in cellars and outdoors, extra queens in double nuclei, should encourage others to try it as well. I have done so before (in cellars, with small nucs on three shallow frames) and intend to try it again this winter.

An adjustable division board that is also bee tight should be of considerable value when forming nuclei to winter over those extra queens (page 268). Items such as this seem small but often are of big help.

Middle River, Minnesota.

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EGGS SEEN IN QUEEN MAILING CAGES

By J. F. Dinger

I saw in your April Gleanings inquiries concerning queens in mailing cages dropping eggs. About one year ago I received a queen from the South through the mail. When she was received from the post office she was laying eggs in the cage.

Reynoldsville, Pa.

[This is the first report we have received on this matter, since publishing the article on page 141 of April, 1944, Gleanings.—Ed.]

Spinster Jane Says

June, and wild roses in bloom, here in Sudbury District, wild plums and wild strawberries are nicely formed, the latter in sheltered spots where the frost could not touch them. We have very few apple trees in this community, hence what used to be our staple fruit in Old Ontario is now a luxury. Our staple fruit is the humble blueberry, but its blooms have no longer an attraction for the bees. They are now blueberries and as yet green.

The growth of field crops and garden vegetables is very slow, because the season is more backward than is usually the case at this date in June. We have had a lot of chilly weather, but to date it has been exceedingly dry. On clay land we can stand dry weather, but where land is sandy the continued dry weather soon shows by the drying and burning up of green growths. Even on clay land it means keeping the hoe in constant use, and, thanks be! I am able to wield a hoe once again.

Bees zoom busily over my head as I work, going about their business of gathering nectar. They surely have a one-track mind, being intent only on gathering their load as quickly as possible, getting it home and stored and then coming back for more.

I have watched men at work, and believe you me, they do not display half the energy shown by honeybees. Are human beings wiser, choosing to save themselves and so prolong their lives, or is it better to give of our very best to the task in hand, then enjoy rest from our labor? Again I think of Solomon's ideal woman; "She looketh well to the ways of her household, and eateth not the bread of idleness." Now-a-days it would take a honeybee to measure up to his standard.

Our bees are not nearly so strong and vigorous as last year's were. They wintered badly, have weakened during this cold backward spring, and Boy, to make up a part of his loss, imported 15 two-pound packages from the Southern states. These arrived after their long journey, in fine shape, and were moved immediately to their new site. Next, six new queens arrived, and to give the newcomers a boost, each was given a frame of brood. They are surely going ahead fast, and may outdo the colonies in the home yard.

The new yard has been a neglected spot for years. Dead grass has accumulated and through this, new green growth pushes. But, it is beautifully shaded by young birch trees, coming up all about. We foresee that Boy's weekly day off will be the busiest day he spends, but before the season closes we expect a fine beeyard to develop.

We had our very first experience with bees not accepting queens in two cases. In two cases cantankerous colonies were trying to raise a queen of their own, in fact had started queen cells. We don't believe they carried eggs from real royalty, either. To us it meant that some upstart of a worker bee will try to usurp a queen's place, and there is no place for such a sham queen in any proper colony. An inferiority complex is better than one of the superiority brand in either bees or humans. "Blessed are the meek," is true of both.

One ugly colony has been transformed since a new queen took over. I could not go to the chicken-house or clothes-line, when Biff! one of those bees came at me She came in no peaceful frame of mind. I knew that even before she reached me, and failing in her objective, she hurried back to the hive to round up reinforcements. I always beat a retreat. Why weaken a hive by swatting so many?

All that is now changed. All is quiet on the home front, and the only stings I get are from disentangling one caught in my hair accidentally.

I have seen a divining rod used to locate water. Have felt it turn forcibly in the hands using it, when mine were placed over them, but fancy such a divining rod for finding the queen in a populous colony!

Did I tell you before that Canadian beekeepers are getting their first real break? Our Government is giving a subsidy of 50 cents per pound on bees imported from the U. S. A. up to a certain date in June—this to stimulate and encourage honey production. Too bad we were not ready for more packages.

From North, East, West and South

NORTHERN CALIFORNIA, June 5

Weather: Here in the Bay Area we cannot boast of ever having winter. We do have cool and damp weather, sometimes as late as the first of June. Some days are so foggy and damp that no bees venture from the hives. During the past month we had four or five days when bees did not leave the hive.

Bees: No complaint has reached us of bees not building up properly. On the other hand, the build-up is good. If we mention any complaint it will have to be too much swarming. We are located in Alameda County and our County has between three and four thousand colonies registered. In the large cities there are many not registered. Most of our trouble comes from bees not registered. Among the not-registered beekeepers some do not belong to associations and are not readers of bee books or bee journals. From the same class comes the complaint of too much swarming. And worst of all is the beekeeper who is so careless that he causes ordinances to be made against beekeeping. In a nearby town there is a vacant lot with a foot path from corner to corner. A beekeeper moved 50 colonies into the center of this lot. People were stung and an ordinance against the keeping of bees was asked for and granted. The bees were moved.

This thing of making ordinances against the keeping of bees becomes a serious thing. In the majority of cases they are not enforced but if they were the community as well as the beekeeper would be losers. For a long time we have claimed that for the money invested beekeeping pays the best of any department of agriculture.

Miscellaneous: Now that the beekeeper can sell the last pound of honey he produces at a good price, is it not the time for us to spend some time in telling the general public of the value of bees? When the public can see the value of the bee to the florist, the gardener, and the farmer, there will be no longer any effort on the part of anyone to prevent the raising of bees.

We have spent so much time in defense of the bee that we have neglected to mention that it is next to impossible for dealers to find honey to supply their customers today. There is a grave shortage of honey.—Cary W. Hartman, Oakland, Calif.

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SOUTHERN CALIFORNIA, June 2

Weather all during May was delightfully cool much of the time with a few warm days. Fog prevailed until noon, with very little wind. The ground has considerable moisture, and wild flowers are plentiful.

Honey Crop: Bees have been out every day but the results are very disappointing on our year-round locations on the black sage and wild buckwheat ranges. Scale hives showed little gain in weight. A little honey continued to dribble in from the orange until about May 25th, but in most localities it was a very short crop. Estimates vary from 15 to as high as 50 pounds from the orange, depending on locality.

Miscellaneous: Truck loads of bees being moved here and there over the highways are a daily sight. Beekeepers looking for locations for two, three, or five hundred colonies are common. Most of these bees had been located on the orange and had to be moved out. We sometimes wonder how it will all come out. Will it be a survival of the fittest?

In years past we often considered that we had one half of our honey crop off the bees by June 1st. It will be a very short crop this year if that is the case.

White sage and wild buckwheat look well and with normal weather throughout June and July there is yet a chance to get a satisfactory yield from these two great honey plants that grow so profusely over

much of the unirrigated lands of Southern California.

Honey buyers are plentiful. Twelve cents is offered with little regard to color, for honey in cans without case or carton. This goes all right so long as the honey is granulated but how will it go when liquid? Just one of the changes that has taken place in buyer demands. —L. L. Andrews, Corona, Calif.

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TEXAS, June 6

Weather for the month of May was a growing improvement over that of March and April. At the first of the month all beekeepers were feeding and many colonies were reported dead or dying. By the twentieth of the month a sufficient amount of rainfall accompanied by a few warm days allowed the bees to collect a little nectar from horsemint and mesquite. The last eight days of the month have brought increasing sunlight and the bees have outdone themselves. Two and three-story hives that, at the beginning of May, were starving now have no room whatsoever for more stores. Horsemint and mesquite are still in fine condition. In the Gulf Coast section a month ago there was no prospect whatever of carrying the bees through the summer. At the present time the beekeepers are hunting more room and making preparations for the sale of what appears to be a fine blend of mesquite and horsemint.

Miscellaneous: The blooming of horsemint and mesquite was abnormal, both of them being a month late. Horsemint came up on time but the drought allowed it to put up only small stunted bloom stalks. When the rains commenced the tenth of May, horsemint came in immense quantities in places where it was not visible before and today the returning workers seem to have been powdered all over with horsemint pollen. Likewise mesquite came into a light bloom in late April and a few scattered tags continued to appear until the middle of May when a general bloom started and this bloom continues. It is increasing in volume. Accompanying these two major honey plants, Gaillardias and many other composites including brown-eyed Susans (Rudbeckia) added much to this most unusual honey flow.—H. B. Parks, Route 1, Box 368, San Antonio, Texas.

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MONTANA, June 3, 1944

Weather: June is here, but we can tell only by looking at the calendar. It is cold enough to work with a coat on and have a fire this morning. There has not been much warm weather—so cloudy and cool that the bees cannot fly. We have had plenty of rain recently.

Bees: Some bees are very weak and are playing out for the lack of feed and warm sunshine. There has been no difficulty in procuring all queens and bees needed this season, only some are arriving late, just hived this week. There have been over 300 hives of bees hauled into the mountain valley for dandelion bloom the last few days but rain and cold prevented the bees from working. We are having to feed them. It is taking more sugar than I ever heard of to keep bees alive.

Honey Plants: Yellow sweet clover is our first honey plant after dandelion. White clover is a close second but neither of them is advanced enough to make any accurate estimate of their value. I am guessing they should be fairly good this year.

Alfalfa comes in about three weeks and white sweet clover about the 10th of July. The farmer is our stand-by every year. If we do not have the clovers we should make a good crop on alfalfa provided we have good weather.

Our most noted flower, the Bitterroot, will be out in the next few weeks. While it is very beautiful in many colors and about as hardy as cactus it is not found in quantity sufficient for bees to pay much attention to.

Miscellaneous: In some places disease has shown up and caused very great loss. I believe it is worse when we have long cool springs.

Everything looks good; plenty of help, lots of flowers, and lots of money. Montana oversubscribed on Red Cross and War Bonds. We are looking to the future with plenty of faith.—Parson Pile, Corvallis, Mont.

MISSISSIPPI, June 6

Weather: The winter was very mild and the number of colonies lost would probably average not more than 1 or 2 percent, although very heavy frequent rains during March, April, and May, kept the bees out of the field and some colonies starved during that time when they were not carefully watched.

Queen and package shippers have operated under great difficulty this past spring, due to the constant heavy rains and the shortage of labor. The season is now practically over except for scattered shipments.

Crop Conditions: In normal years, especially in the northern part of the state, rather heavy yields are secured during April and May from smooth vetch, hairy vetch, white clover, and sweet clover. However, the constant rains have greatly reduced the yield and it is doubtful if colonies in the northeastern part of the state have averaged more than 30 to 40 pounds surplus at this time. One beekeeper at Meridian estimates 75 pounds surplus, while one at Leakesville had extracted an average of 65 pounds to the first of June. Spring rains cut the flow in the Delta a great deal. It is too early to predict the flow from cotton as the crop is about a month late.

There is more interest in beekeeping this spring than in many years and many who have kept bees in box hives are now wanting to shift to modern equipment.—Clay Lyle, State College, Miss.

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NEW JERSEY, June 7

Weather: While the early spring weather was quite unfavorable for colony development, when the temperature became normal, bees built up with remarkable rapidity. This was due to an abundance of incoming pollen and an unusually large carryover of old honey in the hives. Then came a period of stormy weather with small precipitation but bees were kept in the hives and cooked up swarms.

Colonies now are for the most part in good condition and where management has been correct have gathered a full-depth super of honey.

Plants: The wet spring has given clovers and early nectar producing plants a boost and prospects are good for a honey crop if bees are properly managed.

Miscellaneous: The increase in new beekeepers has been phenomenal. They are springing up everywhere and dealers in bees and queens are swamped with orders—Elmer G. Carr, Pennington, N. J.

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IOWA, June 9

Weather: Of course the weather is always the deciding influence in a honey crop. There are some who see in the prevailing weather now some of the earmarks of the last two seasons. If this carries through it means that the weather will be unfavorable for honey gathering.

Packages vs. Wintered-over Colonies: The honey producers of Iowa have experienced very unsatisfactory results in wintering for the past three seasons. There has been increased attention given to the possible use of package bees for honey production. It has long been recognized that the cost of producing honey is approximately the same with a package as with a wintered-over colony. However, it has seemed difficult to adopt a policy of killing the bees in the fall and depending for honey production upon the use of package bees. This proposal will receive a severe shock as a result of the experience this year in the late delivery of packages. It is necessary to receive packages very early if they are to be built up into profitable honey-gathering colonies. It is not possible to overcome the handicap of a delay of one month in the delivery of the packages. This was the minimum period this year and in many cases extended farther than that. It is possible now that the producers will give more attention to putting better colonies into winter and depending upon them

to a greater extent for gathering honey the following season.

The bee moth has developed a population which is causing considerable loss to the producers of this state. Reduced operations in 1943 made more combs available for the bee moth. The same situation will probably prevail in 1944. Producers are urged to be keenly alert to the presence of the bee moth and to take positive measures of eradication immediately upon detecting the presence of this pest. It is much more patriotic to make beeswax available for war purposes than to make it available for the bee moth.

A case of Nosema disease has been identified in the eastern portion of the state. It is possible that this disease is more widespread than has been realized up to date. Beekeepers are urged to send in specimens where this disease is suspicioned. If this disease is gaining a foothold in this state, it will mean an extra hazard for the honey producer.—F. B. Paddock, Ames, Iowa.

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ONTARIO, June 6, 1944

Weather: The fine warm weather prevailing when notes for Gleanings were sent early in May, continued for three weeks during fruit bloom and dandelion, and at this date (June 6) bees are in fine shape generally in most of Ontario so far as we can learn. As February, March, and April had been much colder than usual, late in April little brood was present, and this condition was noted by inspectors and others who had to examine bees for moving. But the hives were full of old healthy bees whose vitality had not been impaired by winter brood rearing, and when warm weather did finally arrive, how those colonies did build up. Many that had wintered in a single brood chamber now occupy three bodies. For the first time in many years, we were unable to get all queens clipped.

Conditions: Clover looks good but is scarce in some of our locations. The Georgian Bay counties appear to have clover in abundance and prospects for a crop of honey are above the average. Moisture has been abundant in some parts of Ontario, notably the south and west counties, medium in central parts and very light in the east and north counties. Heavy rains during the past few days have helped us out in central Ontario and we hope that the East has also received these rains.

Miscellaneous: No change in rationing regulations as yet but we are still hoping that by the time the new crop is on the market there will be some loosening up in present rulings. While we would gladly give up all retail sales if no changes are made, yet we are not able to do so as people have been getting honey here for over 50 years, and refusal to sell is not to be thought of.

H. J. Rahmlow writing in May A. B. J. sees a bonanza for package bee shippers in the South by reason of ability to stimulate early brood rearing by feeding the pollen-soybean cakes. Granted this may be possible, that will not help in the unsolved problem that the southern breeders have to contend with. What about getting the queens to go with the packages? For over a decade we have been getting hundreds of packages from a shipper that we consider to be "tops" in the business and yet too many of his queens go wrong. They cannot control the weather down there any more than we can up here. Generally speaking, good queens cannot be raised in Ontario before June, and it is doubtful if they can raise them any earlier in the South than at present. The only solution appears to be that of wintering queens in nuclei, and friends in the South say that this would add to the cost of production tremendously.

A writer in the Country Gentleman for June, states that the supply of all grass and clover seeds is away below normal. Among the seeds mentioned are alsike, alfalfa, Ladino, and sweet clover—all essential to many beekeepers. Sweet clover seed on hand, he states, is only sufficient for half the amount required for seeding in the U. S. this spring and this after imports of 3,600,000 pounds is taken into account. Possibly this condition will be a factor in helping to solve the problem of lack of nectar bearing plants so acute in many localities.

In the passing of Mr. John Adams of Ransomville, N. Y., we feel the

loss of a very dear friend of many years standing. He was well known here in Ontario as he attended many of our conventions and for a number of years, in conjunction with Mr. William Couse, acted as a judge on honey at the Canadian National Exhibition. He was a man of whom it could be truly said that his word was as good as his bond. He was kindly in his manner, and a friend to be trusted. When visiting at his home, he was hospitality personified and such visits always left pleasant memories. We extend to the family our sincere sympathy, feeling sure that many of our Ontario friends will join with us in these sentiments.—J. L. Byer, Markham, Ontario.

MAXIMUM PRICE REGULATION NO. 275, AMENDMENT NO. 7

The Federal Register for May 27, 1944, on pages 5726 and 5727 contains the amended sections. We cannot reproduce the entire text, but two sections which are of particular interest to producers are as follows:

Under 3, "(6) 'Dealer' means any person located in the Continental United States who buys and resells bulk honey. The term includes but is not limited to the following persons: carlot shippers, jobbers, importers, persons selling for the account of foreign shippers, wholesale grocery companies, bakery and confectionery supply houses, and retailers. A producer cannot be a dealer with respect to honey which he produces, but may be a dealer with respect to honey which he has purchased in the normal course of trade or business from another producer or dealer.

Under 4, "(5) Dealers' maximum selling prices for domestic bulk honey.—The dealers maximum price per pound for domestic bulk honey, f. o. b. dealer's shipping point shall be as follows:

Quantity of sale:	Prices (cents)
12,000 pounds or over	12½
Less than 12,000 pounds but not less than 1,500 pounds	13½
Less than 1,500 pounds but not less than 300 pounds	14½
Less than 300 pounds	15½

(i) To the above table of prices the dealer may add the following:

(a) ½ cent per pound in instances where he sells the honey in the container without such container being returned or another one being received in exchange.

(b) The actual freight charges paid by the dealer to a carrier or prior vendor, and incurred on the honey from the 'producer's local shipping point' to the point from which the dealer sells f. o. b.; Provided, That the dealer states such charges on the invoice accompanying the sale, and lists the 'producer's local shipping point' from which such honey was originally obtained.

"(6) Dealers' service charges. (i) Whenever any dealer (located in the Continental United States) or the dealer (located in the Continental United States) who supplied him has, within the continental limits of strained, or heated and filtered, and repacked the bulk honey into a new or thoroughly cleaned container, a service charge not exceeding 1 cent per pound for domestic bulk honey so treated or 1½ cents per pound for imported bulk honey so treated may be charged by such dealer to all buyers except buyers engaged in the business of bottling honey (to whom no such charge may be made). In the event such dealer, or such dealer who supplied him received the imported bulk honey in barrels and repacked it into metal containers after heating and straining it, or heating and filtering it, the maximum service charge shall be 2 cents per pound instead of 1½ cents per pound.

"(ii) A dealer shall not make any of the service charges provided above unless (a) the invoice which he gives to his purchaser states that the honey has been heated and strained, or heated and filtered, and repacked into a container by a dealer located in the United States and states the name and address of the dealer who performed such service, and (b) the honey is in a container which is marked 'Repacked in the United States'.

"This amendment shall become effective May 31, 1944."

Those interested in the purchase of imported honey should acquaint themselves with the entire amendment.

Just News

The July meeting of the Middlesex County Beekeepers' Association will be on Saturday, the 29th, 2 p. m. at the home and apiary of M. W. Barrett "The Bee King", 25R Emmett St., Hyde Park, Massachusetts. Suffolk and Norfolk County beekeepers are especially invited to enjoy this gathering. With the sandwiches which you pack for your picnic supper, please also bring plate, cup, and spoon for ice cream, honey, and coffee which will be served by the ladies.—A. M. Southwick, President.

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The Minnesota Beekeepers' Association will hold its summer meeting July 28, 1944, at University Farm, St. Paul, Minnesota.—A. G. Ruggles, Secretary.

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The Illinois State Beekeepers' Association will hold its annual midsummer meeting, Sunday, July 23, at Lord's Park, Elgin, Ill., (rain or shine). This park is located at the east end of Elgin, three blocks east of route No. 25 and two blocks north of Chicago Ave., (Irving Park Road). This will be an all-day meeting with picnic dinner at noon. Coffee and meat will be served. Bring dishes to pass and your own table service. Meeting will start at 10 a. m. sharp.—A. J. Smith, Sec.

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The New Rochelle Beekeepers' Association will hold its regular monthly meeting at the home and apiary of Mr. and Mr. Alfred F. Roth, 146 Oak Street, Portchester, N. Y., on Sunday, July 16, at 2:30 p. m. The subject open for discussion will be adding supers for the fall harvest of honey.—S. Barnes.

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The Bronx County Beekeepers' Association will hold its regular monthly meeting on Sunday, July 9, at 2:30 p. m. at the home and apiary of Mrs. Grace Bowen, 1336 Balcom Ave., Bronx. An inspection of the hives of this apiary will be made and a demonstration in the handling of bees.—Harry Newman, Sec.

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The New Jersey Beekeepers' Association will meet at the "Log Cabin" on the grounds of the New Jersey Agricultural Experiment Station at New Brunswick, N. J., on Thursday, July 20th, 1944 commencing at ten o'clock a. m. There will be round table discussions, so bring your bee problems.—Elmer G. Carr, Secretary-Treasurer.

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Correction: Form number 834 referred to in editorial, page 280, of June, 1944, Gleanings, on Sugar Tax Refund, should read form num-843.

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The North Dakota Beekeepers' Association will hold its annual summer meeting and picnic at the Detroit Lakes, Minn., park and pavillion on July 28th. Speakers are being arranged for.—Arvid P. Benson, Secretary.

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OHIO SUMMER MEETINGS: The Northern Ohio meeting will be on July 30th at the Cleveland Museum of Natural History, 2717 Euclid Avenue, Cleveland. This will be an all-day meeting. The Cuyahoga County Beekeepers' Association is well known throughout Ohio as one of the largest associations.

A Western Ohio meeting is scheduled for July 31st and August 1st at Delphos, Ohio. The Tri-County Beekeepers' Association is one of the oldest associations in the state and has served the needs particularly of the commercial beekeepers of western Ohio. A banquet is planned for the evening of July 31.—W. E. Dunham, Secretary Ohio State Beekeepers' Association.

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The annual summer meeting and picnic of the **Virginia State Beekeepers' Association** will be held Thursday, July 20th, from 10:00 a. m. to 4:00 p. m., at Miller Park, Lynchburg, Virginia. All beekeepers are cordially invited.—H. W. Weatherford, Secretary-Treasurer.

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George Rasmussen, 45, president of the Empire State Beekeepers' Association, died suddenly at his home in Chazy on June 2, following a heart attack. Mr. Rasmussen had conducted an apiary in Chazy for a number of years having been employed in the same line of work for the Chazy Orchards. He was the North Country's leading authority on bee culture and was frequently called upon to speak at agricultural meetings and meetings of the association to which he belonged.—E. J. Dyce.

Editorials

National Federation of State Beekeepers' Association

This organization formed during the National Conference in Chicago last winter, with Oscar H. Schmidt of Michigan, President, D. C. Stahlman of Idaho, vice president, and V. G. Milum of Illinois, Secretary-Treasurer, has begun to function effectively. Fifteen state associations representing about 3,000 members have already affiliated and other states are ready to come in.

The Federation has made some attempts to secure consideration of service deferments for both package bee and honey producers.

Committees being formed are Research, Convention, Resolutions, and Beekeepers' Rights. The latter is of importance because of recent unfavorable and pending court decisions relative to keeping bees within city limits.

The Honey Plant committee is now fully organized with Dr. W. E. Dunham, of Ohio State University, acting as chairman.

It is hoped beekeepers and those affiliated with our industry may give our Federation the moral and financial support it rightfully deserves.

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The New D D T a Deadly Foe to Nearly All Noxious Insects

If the new insecticide is awfully destructive to all insects, including the body lice that afflicts mankind, what will it do to bees, one of man's most useful allies in winning this war? Bees, as has been pointed out in these columns, make it possible to increase our food crop from one to fifteen times. Now, then, if one application of this deadly drug on our clovers and fruit trees will kill the noxious insects by contact only, what may we expect from its careless or ignorant use on food crops?

Numerous articles in our magazines have told how it delouses whole armies of body lice, how one application in the house will kill all flies for the season. Anything so powerful offers both a hope and a menace.

When the war is over it will be available for civilian use.

Knowing that experiments were being conducted at Beltsville, Md., we wrote to Jas. I. Hambleton to get the probable effect on bees. He wrote:

Dear E. R.:

The new insecticide DDT is almost unbelievable in its effect on injurious insects. The stories you have heard about it so far are not exaggerated. Some insects, of course, are not especially affected by it. When this insecticide was first introduced in this country from Switzerland we tried it on bees and found that it would kill them. With many insects it is not essential that the poison be ingested. Merely contact with the insecticide through the feet of the insects is sufficient in most cases to produce toxicity.

None of this material is available for civilian use and it seems that none will be until after the war. Large scale tests of various kinds, however, are either under way or being planned, and we have taken advantage of whatever opportunities there were to make observations on its effect on honeybees.

The new material seems effective against the coddling moth and adheres to the leaves throughout the season. Insects coming to "roost" on such leaves are killed. It is too early yet to say how the widespread use of this material will affect beekeeping. Since it adheres to the foliage so tenaciously, rain, dew and sunshine apparently do not affect it. One or two sprays may, therefore, be all that is necessary whereas with most insecticides used against the coddling moth as many as 12 and 13 sprays are applied during the season. Cover crops attractive to bees are thus more or less bound to catch some of the sprayed material. The killing of bees on cover crops may therefore not prove so injurious to honeybees as when the conventional arsenical sprays have to be used. It is too soon, however, to make prognostications.

Sincerely yours,
Jas. I. Hambleton
Division of Bee Culture

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"Penny Wise and Pound Foolish"

The above can be applied to beekeeping, especially when it comes to salvaging equipment that has come in contact with colonies infected with American foulbrood.

There has been and still is a tendency among some beekeepers to save every bit of equipment possible, and, in some instances, wax from infected combs. Parson Pile, of Montana, one of our reporters for the "North, East, West, and South" department, in a recent letter had this to say:

"We have some beekeepers who Cyanogas the diseased colonies and burn the whole hive while others melt the wax out and use the equipment over. I saw the melting sys-

tem tried before I ever had any bees and the disease would come right back. I believe that is the best way to spread it."

The organism **Bacillus larva** is very persistent. It seems risky to temporize with it. Unless extreme care is exercised in handling and disposing of diseased combs there may be a recurrence of the disease.

When diseased colonies are killed with Cyanogas and hives saved, the contents of hives—frames with combs containing brood and honey, also dead bees—are burned in a deep pit. It is necessary to handle the frames, which seems rather hazardous because honey which is said to be the carrier of the disease may get smeared over equipment that is to be saved. Unless this work is done at night or on a cool day there is danger of bees from clean hives visiting the scene of operation.

It is possible that some careful commercial beekeepers who are properly equipped can and should salvage all possible from diseased colonies.

The question is — does it pay to save the hives? There is this in favor of burning hives as well as the contents:

(1) There is a saving in labor which is quite an item nowadays.
(2) There is no danger of contamination, provided burning is done properly.
(3) There is no cloud hanging over one's head, no fear of recurrence of disease, at least, from equipment that is burned.
(4) Best of all, there is the satisfaction that the diseased colonies have been completely eradicated. That is a grand feeling.

Incidentally, such a procedure, if followed generally, might result in greater progress in disease eradication.

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Clover Seeds Scarce According to the Weekly Press Bulletin put out by Ohio Agricultural Experiment Station, Wooster, smaller quantities of seeds of sod-forming and soil-building legumes and grasses were produced in 1942 and 1943 than in the years preceding the war.

Farmers who do not need every acre of second-cutting legume hay to feed stock will do a service to agriculture by harvesting a crop of seed to replenish dwindling supplies of the nation.

Obviously, the seed situation is unfavorable for beekeepers and until more legumes are produced than are being produced at present beekeepers will not be assured of maximum honey crops.

There appears to be little the beekeeper can do to help rectify this situation, except to contact farm bureau agents over the country, also those in agriculture who have to do with farm crop rotations, to enlighten them, if necessary, on the value of honeybees for pollinating the legumes needed so badly at present for soil building. This would appear to be a worth while project for county and state beekeepers' associations.

• • •

Swarming Bruce Morehouse, of Minnesota, in his article appearing on pages 260-262 of June, 1944, Gleanings, mentions "the Swarm Gremlin, a mischievous little fellow who delights in upsetting the colony equilibrium."

It seems likely that more has been written about swarms and swarming than any other phase of beekeeping. While swarming is a natural phenomenon and constitutes the method by which bees propogate their kind, there is still some mystery surrounding it.

However, as Morehouse says, "Many beekeepers blame the queen for swarming when they should blame the beekeeper for doing or not doing the proper thing. All too frequently the swarm that hangs on the tree was put there two or three weeks before, by neglect or by misjudgment of the right colony operation."

Morehouse is right. Swarming is usually the result of faulty apiary management. It is safe to say that during this season thousands of swarms will issue and leave the hives for parts unknown, simply because the owners failed to provide necessary comb space and suitable hive manipulation at the proper time.

Every possible effort should be put forth to keep populous colonies storing surplus honey instead of casting swarms that leave for the woods, unless hived promptly.

Doctor E. R. Root

A. I. Root's intense interest in bees and beekeeping lasted little more than a dozen years. That he crowded into those years almost a lifetime of study is now known; that he established Gleanings in Bee Culture and the ABC & XYZ of Bee Culture on a firm foundation is now, also, a matter of history.

Failing health and the imperative need of help in carrying on the expanding new industry forced A. I. Root to rely on his son-in-law, J. T. Calvert, and his son, E. R. Root. Both

Dr. E. R. Root

came home from college not merely to help temporarily but to begin what eventually became for each more than 60 years of continuous building on a foundation which their father so well laid.

To E. R. Root came the task and opportunity of carrying on as editor of Gleanings and author of the ABC & XYZ of Bee Culture. Under his leadership this book of over 20 editions became the most widely read work on beekeeping in all the world. In fact, its distribution has exceeded that of most scientific works.

His friends had outside hobbies and diversions but E. R. Root's hobbies, aside from photography, which greatly helped him in his life work, were confined very much to investigating bee culture farther and farther afield. Travelling and lecturing for over 50 years in every State in the Union not once, but over and over, he has attended more beekeepers' meetings than any man in the United States—perhaps in the world. Eager to teach he has been more eager to learn, and what he learned he shared with his readers.

To him, as well as to his associates, it came as a surprise that the Ohio State University having granted fewer than 40 degrees of Doctor of Laws in all its history, should select E. R. Root for this high honorary degree of LL.D. granted on June 3, 1944. But Dr. Root to his friends and associates, and to all who love him best, will still be "Ernest" or "E. R."

Citation

Mr. President:

I appreciate deeply the honor and privilege of presenting Mr. Ernest R. Root, of Medina, Ohio, for the degree of Doctor of Laws.

Mr. Root's entire life has been devoted to the study and advancement of bee culture.

He received his first inspiration in this great field from his famous father, A. I. Root, with whom he associated himself after completing his work at Oberlin.

While Mr. Root was a pioneer in developing new methods of processing honey, making known its important food values and extending the varied commercial uses of beeswax, his greatest contribution, probably, was in understanding and continuously advocating the important part the bee plays in the matter of food production, through the pollination of fruits, legumes, and seed crops.

His original ideas and impelling enthusiasm have been responsible for many important researches along these lines by able scientists all over the world.

For more than fifty years, Mr. Root has edited the outstanding monthly called Gleanings in Bee Culture.

He is the principal author of the recognized authoritative Compendium of Knowledge on Bees which has gone through 28 editions, totaling over 300,000 copies, with translations in French, Russian, Spanish, and German.

In this same field of knowledge, he has been a wide traveler and lecturer and is the author of eight books and of many hundreds of leading articles.

I am proud to present Mr. Root, as a scholar, as an organizer, as a promoter of knowledge and production, in fields of economic and social importance, and as an outstanding citizen, always public-spirited, always unselfish.

CARL E. STEEB
Executive Director
Ohio State University

Talks to Beekeepers

By M. J. Deyell

"Nothing Succeeds Like Success."—Most of us beekeepers, because we are human, are influenced by conditions that prevail throughout the season. It could hardly be otherwise. When prospects look encouraging for a honey crop, when ideal weather for nectar secretion prevails, and when the bees are storing surplus, our spirits are high. When prospects are not encouraging and the weather is unfavorable for nectar we are likely to be down in the depths of despair.

During a good honey flow of considerable duration, it is difficult to even imagine adverse conditions and we wonder at such times how we could ever be pessimistic. It takes all sorts of experiences and seasons to make a veteran beekeeper.

The successful beekeeper is one who faces adverse conditions and situations philosophically and possesses the required initiative and originality to meet all beekeeping emergencies, so far as this is humanly possible. This applies especially to commercial beekeepers who depend solely on bees for a livelihood.

At the moment (this is June 13), conditions look fairly favorable for a honey crop around Medina. Since D-Day, June 6, the weather in this area has been too cool for ideal nectar secretion. We are hoping the weather may turn warmer. Yesterday the scale hive gained 1½ pounds.

The Value of a Scale Hive.—By the way, those of you who have kept a scale hive during the years have doubtless found it interesting and worthwhile. It serves as a barometer of conditions throughout the season.

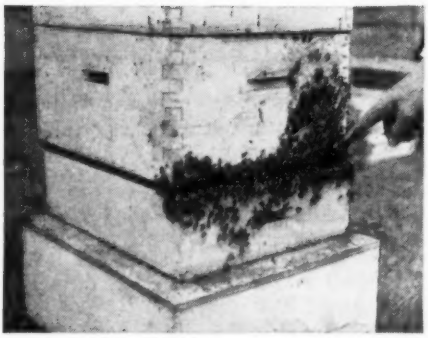
As stated in previous talks, the weight should be tabulated quite early each morning before bees start to fly freely. When the weight is tabulated late in the evening, then again early the following morning, it will be found that there is a considerable loss in weight during the night. This is due to the evaporation of the water content of nectar during the night. Nectar, we are told, is approximately two thirds water. There is, however, quite a variation of sugar content of nectars, due to atmospheric conditions and differences in nectar plants, also types of soil. Bees have to carry about 300 pounds of nectar in order to store 100 pounds of honey.

Too Much Honey for Stores.—We have had a condition in our apiaries this spring that has been rather unusual. When we checked our apiaries in late April and early May the food chambers contained so much honey that we wondered if the bees would ever use it. We were tempted to remove some combs of honey. However, I told the boys to leave the honey in the hives and we would see what would happen, or how much would be left just before the main honey flow. Well, a good deal of this honey has disappeared. It has been transformed into young bees. We are told that approximately one comb of honey is needed to produce one comb of bees.

Queen Cells - Ventilation.—Prior to June 6, we had a terrifically hot spell. We found queen cells in strong colonies. During the years, I have found that old Mother Nature will solve some of our problems if we give her a chance.

Some years ago, we had a very early spring. Populous colonies in two-story brood chambers built up rapidly. The boys reported queen cells in many hives. We decided something had to be done quickly, so we rushed supers to the yards in order to supply comb space. After we had finished supering, a cool spell set in for about ten days. We also had some snow. Of course, the queen cells were all destroyed. One consolation was that we had the supers on, at least one deep super on each colony, ready for the dandelion and fruit bloom honey flows which followed later.

During the recent hot spell, we ventilated the hives as shown in the picture on the next page. We started doing this about 12 or 13 years ago. A 1/4" opening at the back and just above each two story brood chamber will provide considerable ventilation. A current of air can pass from the entrance of the hive below, diagonally up through the double brood



A ¼-inch opening at the back of a hive helps the bees to keep cool.

chamber and out of this small opening. As the season progresses, some of the bees may use the back opening as an entrance. This does no particular harm.

Some provide such an opening in front, above the queen excluder. This also serves a purpose and is perhaps preferable from the standpoint of an upper entrance.

A Bushel of Bees Saved.—I take care of an apiary belonging to one of my sons-in-law now in the Navy. One colony is about as populous as I have ever seen. Early in May I put on an empty super without any queen excluder. During late May this colony persisted in clustering out at the entrance. One evening, May 30, to be exact, I visited the apiary, taking along some supers. Upon examining the combs in the brood chamber of this colony I found queen cells about ready to be capped over. The colony would have swarmed the following day without a doubt. Something had to be done to break up the swarming. One of the supers which I took along had frames containing full sheets of foundation. I alternated these frames with combs of brood throughout the double brood chamber and added two more supers containing drawn combs, making the hive five high. I also provided some ventilation.

Such a treatment should certainly prevent swarming. Of course, all queen cells were destroyed. If I had not visited the yard that evening I would have lost the swarm, and possibly some surplus honey.

Another Word About Nuclei on Top.—In the June Talk, I mentioned success attained in this matter of placing weak nuclei with queens on top of strong colonies, over inner covers with center blocks removed, having each hole in the inner cover covered top and bottom with queen-excluding zinc. At the present time, all of these nuclei occupy the parent stands and the colonies that formerly occupied these stands have been moved to new stands in the same apiary. If this moving can be done during the spring flow, all the better. The colonies will get established and will have time to build up before the major honey flow starts. In a region where there is a short intensive flow it would doubtless pay to leave the two brood chambers on the same stand, one on top and the other at the bottom, during the season. Two-queen colonies do put up big crops when conditions are favorable. The only possible objection we have to such colonies is that in a region where large crops are secured, one would almost need a step-ladder to manipulate them. Possibly one would be justified in doing so, especially since it has been proven that one very populous colony will store more surplus during the season than will two colonies, both of them having approximately the same amount of bees as the two-queen colony.

Supering.—There are different ideas and methods of supering and we have no quarrel with those who do not follow the method we use.

After the first super is put on and about half filled, we add another super on top. When this last super put on is about half filled we add another super, and so on until there is sufficient comb space to hold the crop. This method saves an immense amount of labor over the old method of lifting filled and partly filled supers off, in order to put fresh supers at the bottom, then lifting supers back on. The secret of success in this method is to get the supers on in plenty of time before the combs become congested.

In the production of section comb honey, it is necessary, of course, to confine colonies down to less comb space than is provided in extracted honey production in order to have the bees concentrate on the sections and cap them over thoroughly. That is one reason why comb honey production is more difficult than the production of extracted honey.

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 8 cts. per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

HONEY FOR SALE

COMB HONEY that looks and tastes right. Geo. Rehman, North Baltimore, O.

NEW CLOVER HONEY for sale after July 15th. E. J. Ballard, Roxbury, N. Y.

DELICIOUS NEW YORK Fancy buckwheat, 13c; amber (buckwheat clover), 13c; 24 pound jars, $4.50, six 5-lb., $5.10. L. Konces, North Abington, Massachusetts.

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

PRODUCERS and DEALERS alike are referred to page 344 of this number of Gleanings, regarding MICHIGAN'S fine Clover honey. The TOWNSEND SALES COMPANY Speaking.

FOR SALE—50 60-lb. tin amber clover, $12.00 can; 50 60-lb. tin California eucalyptus, $12.00 can; 50 60-lb. tin California avocado, $12.00 can; 50 60-lb. tin amber goldenrod, $10.80 can; 100 60-lb. tin dark Cuban (special), $10.00 can. Natural Foods Institute, 624 Prospect Ave., Cleveland, Ohio.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We cannot guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WE PAY CASH for extracted clover honey. Fairfield Honey Company, Millersport, Ohio.

WANTED—White and amber honey; any amount. D. F. Treap, 317 Keenan Ave., Cuyahoga Falls, Ohio

HONEY AND BEESWAX—Highest prices paid. Mail samples. Advise quantity. BRYANT AND COOKINHAM, LOS ANGELES, CALIF.

HIGHEST cash return made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Kentucky.

CASH FOR YOUR HONEY, extracted or comb. Regular trade, send sample. 60-pound cans furnished, if desired. W.R.Moomaw, Stone Creek, Ohio.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

BEESWAX — Highest cash prices paid. Send sample and advise quantity available. MUENCH-KREUZER CANDLE CO., INC., Syracuse 1, N. Y.

WANTED—Highest prices paid on white comb, chunk, and extracted honey, any amount. Lose Bros., 206 E. Jefferson, Louisville, ky.

COMB HONEY WANTED—State size sections, how packed, and the quantity you have. Frank H. Hauck, P. O. Box 84, Kew Gardens, N. Y.

HONEY WANTED—All Grades and Varieties. Highest Cash Prices Paid. Mail Samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, Calif.

CLOVER HONEY WANTED—Top prices for extracted, section, and shallow frame comb. Truckloads or carloads. Tell us if you can deliver. KEDASH BROTHERS, Chillicothe, Ohio.

WANTED white or light amber extracted honey from 1000 lbs. to a carload. Cash waiting. Send samples and best price to Honeymoon Products Co., 39 E. Henry St., River Rouge, Mich.

CLOVER HONEY WANTED—Large or small lots. Would like to establish permaanent connections with several good producers. Ellsworth A. Meineke, R. 1, Arlington Heights, Ill.

HONEY AND WAX WANTED. All grades. Any quantity. Send samples and your best cash price. We carry large stock of Tin and Glass honey containers. ALEXANDER COMPANY, 819 Reynolds Road, TOLEDO, OHIO.

WHEN YOUR CROP is ready let us hear from you. Ceiling prices paid for best grades honey, amber grades, one cent less. Wanted without having been heated in 60-pound cans. The cans you may have when empty, or exchange. BEE-KIST PRODUCTS CO., P. O. Box 1158, San Antonio, Texas.

FOR SALE

MY FAVORITE BEE VEIL. Write for description and price. G. M. Ranum, Mount Horeb, Wisconsin.

QUEENBEE PAINTING outfits $1.00, colony records 10-15c, postpaid. Southwick Apiaries, Waban, Massachusetts.

COMB FOUNDATION at money-saving prices. Wax worked at lowest rates. Comb and cappings rendered. Robinson's Wax Works, Mayville, N. Y.

HONEY WANTED
Carloads and less, all grades.
Will pay top prices.
Would contract now for crop.
Also Beeswax.
H. & S. HONEY & WAX COMPANY, Inc.
265 Greenwich Street, New York, N. Y.

HONEY WANTED
Carloads and less. All grades. Pay cash. Can furnish containers.
J. W. REITZ & BROS.,
Summerfield, Florida

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

Comb Honey Wanted
Advise quantity, grade, size section and how packed.
FRANK H. HAUCK
P. O. Box 84, Kew Gardens, N. Y.
Bank references furnished on request.

HELLO, FOLKS
Here we are again
Stevenson's Line-bred Goldens
To tell you we had too many Package Bees booked to advertise sooner.
Quoting queens, 1-24 $1.25 25-up $1.10
STEVENSON'S APIARIES
WESTWEGO, LA.

MOORE'S STRAIN
Away back in 1879, I commenced rearing Italian queens with the object of improvement constantly in view. By careful selection during all these years I have succeeded in producing a strain of three-banded, leather-colored Italian bees known as Moore's Strain of Italians which has won a world-wide reputation for honey-gathering hardiness, gentleness, etc.
Send for descriptive circular and read reports from those who have tried them. Untested queens $1.25 each; 6 for $7.00; 12 or more $1.00 each.
J. P. Moore, Rt. 3 Falmouth, Ky.
Former address, Morgan, Kentucky
Safe arrival and satisfaction guaranteed

I SELL BEST outfit for finding bee trees. Grover, Bristol, Vt.

FOR SALE—500 good used cans in cartons, your choice 15c at my door, or 20c if I ship. Louis Ginstie, 2 Acacia, Dayton, O.

FOR SALE—New one-frame observation hive, not assembled. Two new uncapping knives. Electric wire imbedder. G. F. Babcock, Flora, Ill.

BEEKEEPER'S HOIST. Durable equipment. Eliminates heavy lifting. Justifies cost each season. $20.00. FOB. Corning, Iowa while materials last. Bee Turner.

WRITE FOR CATALOG. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

FOR SALE—Complete 1 inch tinned copper spiral coil 19 x 20 in., weight 56 lbs., top condition, $30.00. Also 125 Root 10 frame wire and wood queen excluders, 35c each. No disease. Gordon Bell, Badger, Minn.

SAVE MONEY by letting us work your wax into wired regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices as we have no agents. Walter T. Kelley Co., Paducah, Kentucky.

FOR SALE—300 shallow extracting supers, with drawn comb, well painted, used one to three seasons, guaranteed free from disease. They are part of the equipment purchased from a young man who was drafted. Ray Farrington, Henderson, Iowa.

BEES AND QUEENS FOR SALE

BRIGHT ITALIAN QUEENS, $1.00 each. Ready in May. D. W. Howell, Shellman, Georgia.

CAUCASIANS, untested queens, $1.00 each. Lewis & Tillery Bee Co., Greenville, Ala.

NORTHERN-BRED Queens. Hardy honey producing Italians, $1.00 each. Shirl Baker, Rodney, Michigan.

REAL PETS, Brown's stingless bees. Queen, $1.25 for the season. Brown's Apiary, Cape May Court House, N. J.

CHOICE bright Italian queens, northern bred for gentleness and hustlers, $1.00 each; dozen, $10.00. Emil Gutekunst, Colden, N. Y.

IMPROVED ITALIAN Queens, 80 cents, from a strain that produced over 600 pounds per colony. Henry Loehr, Caldwell, Texas.

FOR SALE—A few colonies of bees and considerable bee equipment. Certificate of inspection furnished. Leon E. Coolidge, Birchwood, Wis.

Three-banded Italian bees and queens finest quality. Package bees, 2-lb. and queen, $3.50; 3-lb. and queen, $4.50; select untested queens, 1 to 25, $1.10; 25 to 100, $1.05; 100 up, $1.00. Health certificate with every order. Alamance Bee Co., Graham, N. C.

WANTED TO SELL 600 colonies of bees in Michigan with locations, including honey crop. All standard 10-frame full equipment. Bees are in good shape and guaranteed free from disease. Reasonable price

to cash buyer. Box 2006, Gleanings in Bee Culture, Medina, Ohio.

PACKAGE BEES for 1945. Now booking orders. Crenshaw County Apiaries, Rutledge, Ala.

GOLDEN ITALIAN QUEENS, finest quality, 1 to 25, $1.25; 25 to 100, $1.15; 100 up, $1.05 each. Satisfaction guaranteed. Carolina Bee Farm. W. O. Curtis, Mgr. Graham, N. C.

PLANNING FOR TOMORROW? Then do not miss this opportunity to requeen or make increase with these Italian queens, bred for all purposes. $1.00 each; $10.00 per dozen. Victor Apiaries, Rt. 1, 112 U. S. Hy,. Belleville, Mich.

EXTRACTORS FOR SALE

FOR SALE—Root 2-frame reversible extractor, practically new. Extracted about 300 gallons, $20.00. J. T. Clark, Munford, Ala.

FOR SALE—Root Novice 2-frame reversible honey extractor. In good condition. $25.00 on premises. Cannot ship. E. P. Yoder, West Liberty, O.

FOR SALE—One Root 45-frame Simplicity extractor with motor. One Root wax press, also several hundred new 60-lb. cans. R. C. Bish, Tiffin, Ohio.

POSITION WANTED

EXPERIENCED queen breeder and package shipper wants work immediately. J. D. Piland, Opp, Ala.

HELP WANTED

WANTED—Helper in bee-yards, experience unnecessary. Norman Ellis, Caro, Michigan, Route 4.

WANTED—Experienced bee-man for about two months work, $110.00 per month, including room and board. State experience and age. Located near Milwaukee, John Kneser, Box 128, Hales Corners, Wis.

WANTED TO BUY

WANTED—Two or four frame reversible extractor. Edward Hughes, Wellington, Ohio.

WANTED—2 or 3 frame extractor for full and shallow frames. Advise details. Harold Jaques, 15 Norwood Ave., Newton Center, Mass.

MAGAZINES

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free. Yearly, 7s. 6d., International Money Order. Apply Editor, Indian Bee Journal, Jeolikote, Dist. Nainital, U. P. India.

WESTERN CANADA BEEKEEPER, official organ of the Manitoba Beekeepers' Association, one year $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $1.75. Wallingford Building, Winnipeg, Canada.

READ the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, P. O. Box 43, Cleveland, Johannesburg, S. Africa.

Bright Italian Bees and Queens

We will have quite a few package bees to offer for June and July delivery as we will have all orders filled that we have on the book. We feel sure that we can fill your order for Queens by return mail or in a few days later. Safe arrival and free from disease guaranteed. All packages F. O. B. express.

2-lb. pkg. with queen	$3.00
3-lb. pkg. with queen	4.00
4-lb. pkg. with queen	5.00
Untested Queens	.75
Selected Untested	1.00

NORMAN BEE CO.
Ramer, Ala.

Most orders for Hollopeter reared three-banded Italian queens being filled promptly, and we are increasing our output to meet the unusual demand. Conditions highly favorable for production of first class queens. Commercial queen breeders 34 years.

Untested, $1.0 ; Tested, $2.00

White Pine Bee Farms, Rockton, Pa.

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers - 10% to 40% ahead of the average Italians. Foundation stock from the mountainous region of Terek, Caucasus.

CARNIOLANS

Build up rapidly even during unfavorable springs. Prolific at all times, very gentle, best of workers, 33rd year with them.

Prices: Untested queens, ... $1.00 each.
Tested " ..... 1.75 each.

July is a good month to requeen
Queens by Air Mail 6c extra per queen.

Albert G. Hann, Glen Gardner, N. J.

Mountain Gray Caucasian Queens

For July and later a reasonable number of queens at the following prices:

1-49	$1.10
50-99	1.05
100 & more	1.00

Good stock and well bred queens

BOLLING BEE CO.
Bolling, Ala.

ITALIAN QUEENS

1-99	$1.25 each
100-up	1.10 "

ALBERT KOEHNEN
LIVE OAK, CALIFORNIA

QUALITY BRED ITALIAN QUEENS

85c Any Quantity

THE PUETT COMPANY

Hahira, Ga.

ATTENTION

Carefully Produced Three - Banded Italian Queens For Commercial Honey Production

1 to 23	$.90 each
24 to 99	.85 "
100 or more	.80 "

Send cash with order in American funds. All orders will have prompt attention. Live delivery and satisfaction guaranteed.

"More than 20 Years of Commercial Queen Production"

JOHN C. HOGG

Tifton, Ga., U. S. A.

MANY BEEKEEPERS have proven raising fox, mink nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine tells how. Fur Trade Journal of Canada, Box 31, Toronto 2, Ontario.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription, $1.50. Hotel Cactus, San Angelo, Texas.

MAGAZINES—Keep posted on what is happening in your line of business, trade, or profession through publications devoted to these interests. Choose current sample copies of those you need from our list of 600 different periodicals covering more than 175 fields. List with prices free. Commercial Engraving Publishing Co., 34M North Ritter, Indianapolis 1, Indiana.

ST. ROMAIN'S "HONEY GIRL" ITALIAN QUEENS

1 to 3 inclu.	$1.00 each
4 to 9 inclu.	.90 each
10 to 23 inclu.	.85 each
24 or more	.80 each

Postpaid. Queens arriving dead or hurt will be replaced if returned promptly.

St. Romain's "Honey Girl" Apiaries

MOREAUVILLE, LA.

QUEENS—ITALIANS—QUEENS

Over thirty years of scientific selection has resulted in the production of stock you will appreciate. Introduce our queens now and reap your rewards next year.

Prices: 1-24 .... 90c 25-99.... 85c 100 up 80c

BESSONET BEE COMPANY Donaldsonville, La.

BERRY'S RELIABLE BEES AND QUEENS

Gentle Daughters of Queens Bred for Resistance

June Prices

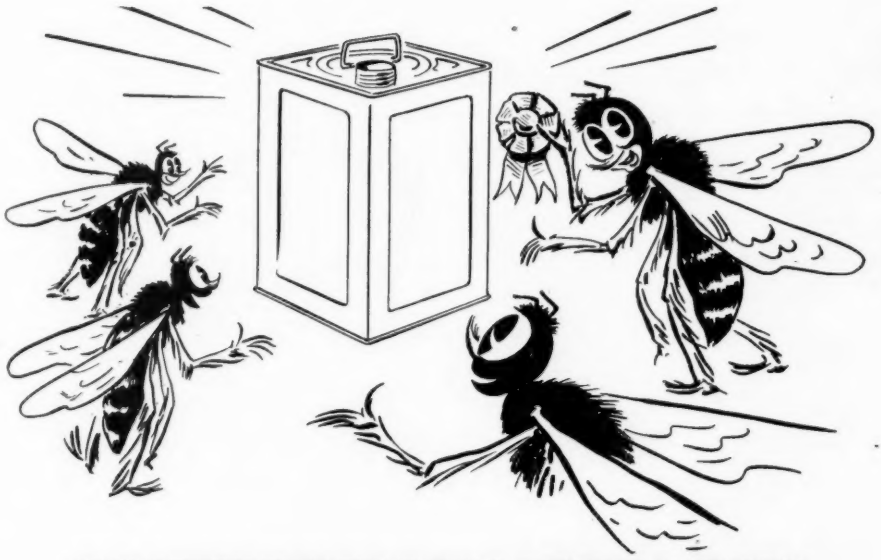
Quantity	Queens	2-lb. pkgs.	3-lb. pkgs.	4-lb. pkgs.
1-24	$1.00	$3.25	$4.25	$5.25
25-100	.90	3.10	4.10	5.10
100-up	.75	3.00	4.00	5.00

For queenless packages deduct price of queens. Wings of queens clipped free of charge when wanted. All queen bees are select, the culls we destroy.

Strengthen your weak colonies ahead of the honey flow by adding a few bees. Large honey producers tell us there is nothing that beats it. We suggest that you try it. If you are dividing or making increase, shake in a package with each increase, and watch results. We guarantee a pleasant surprise.

M. C. BERRY & SON, Box 684, Montgomery, Ala.

Forty Nine Years with the Bees



CONTINENTAL'S "BEE LINE"

At present, Continental's honey container production is confined . . . by government order . . . to one style, the 60-pound (5-gallon) square can. But that can is "pre-war" quality . . . in material and workmanship . . . giving the protection you need and want for your product.

CALL THE NEAREST CONTINENTAL DISTRIBUTOR

PHOENIX, ARIZ.
Quick Seed & Feed Co.
Western Seed, Feed & Honey Co.

TUCSON, ARIZ.
W. C. Collier

ALAMEDA, CALIF.
F. E. Boyden-Hansen Co., Ltd.

ALHAMBRA, CALIF.
B-Z-B Honey Co.

LONG BEACH, CALIF.
J. E. Delgado & Co.

LOS ANGELES, CALIF.
Bryant & Cookinham, Inc.
California Honey Co.
Diamond Match Co.
Hamilton & Co.
Los Angeles Honey Co.

SAN FRANCISCO, CALIF.
E. F. Lane & Son

SPRING VALLEY, CALIF.
Dorwin L. Baker

VALLEY CENTER, CALIF.
A. K. Whidden

DENVER, COLO.
Martin Brothers Company
Attn: R. J. Chadbourne

MONTROSE, COLO.
Western Colorado Honey Exchange

JESUP, GEORGIA
York Bee Co.

BOISE, IDAHO
Reilly, Atkinson & Co. Inc.

GREELEY, IDAHO
L. R. Rice

CHICAGO, ILL.
A. I. Root Co.
W. F. Straub & Co.
Sears, Roebuck & Co.

HAMILTON, ILL.
Dadant & Sons

DECATUR, IND.
The Brock Store

COUNCIL BLUFFS, IOWA
A. I. Root Co. of Iowa

McGREGOR, IOWA
John Harnack & Sons

SIOUX CITY, IOWA
Sioux Honey Assn.
G. B. Lewis Co.

PADUCAH, KENTUCKY
Walter T. Kelley

BAY CITY, MICH.
Oscar H. Schmidt, R. F. D. No. 4

GRAND RAPIDS, MICH.
A. G. Woodman & Co.

ONSTED, MICH.
L. M. Hubbard

BADGER, MINN.
Gordon A. Bell

FOREST LAKE, MINN.
Lionel Hopkins

MINNEAPOLIS, MINN.
Mondeng Mfg. Co.

MOORHEAD, MINN.
Northwestern Supply Co.

HIGGINSVILLE, MO.
Leahy Mfg. Co.

MANHATTAN, MONT.
Cloverdale Apiaries

ALBANY, N. Y.
G B. Lewis Co.

GROTON, N. Y.
Finger Lakes Honey Prod. Assn.

SYRACUSE, N. Y.
A. I. Root Co.

FARGO, N. DAK.
Magill & Co.

PORTLAND, ORE.
Lewis M. White

SAN ANTONIO, TEXAS
A. I. Root Co.

SALT LAKE CITY, UTAH
Miller Honey Co.

LYNCHBURG, VA.
G. B. Lewis Co.

WATERTOWN, WIS.
G. B. Lewis Co.

POWELL, WYO.
A. D. Hardy

CONTINENTAL CAN COMPANY

4622 WEST NORTH AVENUE, CHICAGO, ILL.

WHEELING · JERSEY CITY · LOS ANGELES · ST. LOUIS · CINCINNATI

Queens
75c each
any number—by return mail.

Health Certificate Furnished
Bright 3-Band Italian bees and queens of highest quality. Purely mated. Safe arrival and satisfaction guaranteed. Packages express collect.

NO STAMPS ACCEPTED

Untested Queens	$ .75
Tested Queens	1.50
2 lb. pkg. with Queen	3.00
3 lb. pkg. with Queen	4.00

John A. Norman
ROUTE 2 Ramer, Ala.

Balance of season will be spent in raising the best queens possible. Your next season's production depends on having good ones. I have many long time satisfied customers and believe I can also please you.

Two strains to choose from — Gentle three band Italians and daughters of queens bred for resistance.

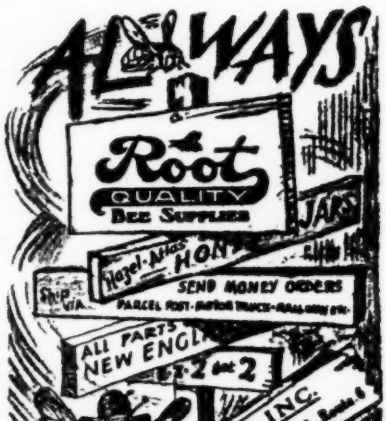
Priced as follows:

1 to 24	$1.00
25 to 99	.90
100 and up	.80

A. E. SHAW
Shannon, Miss.

QUEENS - NORTHERN BRED - QUEENS
Bred from Italian stock of 30 years selective breeding. I am a War veteran of 1918. Requeen with my queens and put the sting to the Axis. I am putting all of my queen sales into War Bonds. Keep the bees and bombers flying, and our boys fighting this war from dying. Buy war bonds, and my queens will help you and me buy more War Bonds.

Price on queens, $1.00 each
WEST BRANCH APIARIES
Grover Hill, Ohio



Bees & Queens! We urge early (cash with) orders for priority on all supplies. CREDIT for Beeswax. Write for price lists.

Northwest Headquarters
—For—
Lewis - Dadant Bee Supplies
Authorized dealer. Send for catalog.

•

Honey Containers
We carry carloads of containers in stock. Send for price list.

Honey and Beeswax Wanted
Any amount, accepted in trade or will pay cash, at ceiling prices.

HONEY SALES COMPANY
1806-08 No. Washington Ave.
Minneapolis 11, Minnesota

THREE-BANDED ITALIAN QUEENS

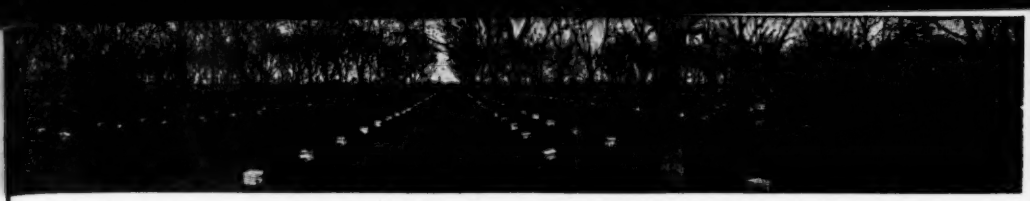
PRICES:

1 to 24	$.75
25 to 99	.70
100 and over	.65

Postpaid

HOMAN BROS.
Shannon, Miss., R. R. 2

WANTED--Extracted Honey All Varieties
Send samples and delivered prices to
JEWETT & SHERMAN COMPANY
Cleveland, Kansas City and Brooklyn



This photo shows portion of our queen bee yard containing over 6000 nuclei.

5,000 three pound package bees with queens available

Packages in Proportion	May we serve you
	3 lb. with qns. $5.00
	2 lb. with qns. 4.00
	Extra qns. 1.25

By Express

OVERBEY APIARIES, BUNKIE, LA.,

PREVENTION OF SWARMING

(Continued from Page 314)

desire of the operator is to keep the colony strong yet remove the swarming impulse. Demareeing is the answer then, and for the benefit of the beginner I will state briefly that this consists of elevating the sealed brood to the top hive body, leaving an empty hive body (empty of brood and bees) between the excluder and the hive body to which the sealed brood frames have been elevated. This does relieve congestion to a degree that reversing does not accomplish. It does, however, divide the unity of the colony, especially if an upper exit is provided, and necessitates the killing of queen cells later in the elevated brood frames, else a swarm may issue.

Elevating brood without leaving an empty hive body (empty of brood and bees) above the excluder will not accomplish much, I believe, unless the two hive bodies below the excluder are reversed. I have never tried doing merely that, so do not positively know. It may help, particularly if the upper exit is provided. Most operators believe Demareeing is effective because of two effects: one, it relieves congestion; two, it causes the colony to conclude that it has lost the strength that warrants swarming. I am wondering if anyone has ever tried Demareeing in accordance with its correct principles and had it generally fail?

Cell cutting is practiced by some to prevent swarming. If this procedure is to be followed, I recommend confining the queen to one hive body, and removing brood as necessary to provide space for egg laying. Two hive bodies are too many to make queen-cell hunting profitable. Finding a queen that has the run of more than ten frames is also too much of a chore for most men.

Keeping colonies strong without permitting them to swarm is difficult. It's almost as difficult as blowing big soap bubbles without having them burst!

Saugerties, New York

METHYL BROMIDE FOR MOTH CONTROL

(Continued from Page 315)

they should be aired for a short time before wrapping.

Application

The concentration for best results is one pound per one thousand cubic feet in tightly constructed buildings, and two pounds for others. The building should not be opened for at least twelve hours. Better results will be obtained if the supers are raised slightly from the floor, either by the use of slats or by blocks at the corners. To obtain a more even distribution of the gas, a fan may be left running in the building for a short time after the application.

Applicator

Methyl Bromide is most convenient to handle in one-pound containers. As these containers are filled under pressure, some special means of application is advisable.

A very cheap and simple applicator may be made from a piece of 2¾ inch piping (inside measurements). A collar is welded to one end of the pipe and a narrow strip welded across the other end. Through this strip, pointing inwards, is welded a thin piece of tubing sharpened to a point. It is through this tube that the bulk of the liquid will escape. The point of the sharpened tube should be about $\frac{3}{16}$ inch from the inner edge of the pipe. When in use the applicator should be turned so that this tube is on the lower side. This will facilitate a speedier emptying of the container. As depicted, the applicator is inserted through a wooden support which has been placed in a raised window. Over the applicator is placed a gasket made of old inner tubing, in order to prevent any gas from leaking back. A tap on the end will puncture the container and admit the fumigant into the room. When one container is empty another may be inserted.

Guelph, Ontario

About MICHIGAN'S f i n e Clover Honey. About MICHIGAN'S Up-to-the-Minute Honey Producers.

For a decade the writer has been almost alone in advertising MICHIGAN Clover honey. F i n e Clover Honey. In the first place we have something to advertise. That is important. Old c l e a n Clover fields, free from the many weeds grown in some states, that interfere with the production of c l e a n pure Clover honey. Mostly from Alsike and Sweet Clover, with a sprinkling of Alfalfa. All tops in honey. On top of this we have an array of top-notch honey producers in Michigan. If it were not for the fact that we have these up-to-the-minute producers in Michigan, this result could not have been accomplished. Together you are offered the very best quality honey that skill and experience can produce. Why go elsewhere to buy your supply of honey, when the opportunity is open to you to buy the best, at no additional price. To both the producer and the buyer: When you have honey to sell, or if you are a packer and are in need of some fine honey, write me. No available honey until the new crop is harvested in July Turn to page 330 of this number of Gleanings, read Section 1351. 1311 MPR 275 Admt. 7, effective May 31st, you will find the terms that will be adhered to in sales of honey this coming season. Adjust your orders accordingly.

TOWNSEND SALES COMPANY

E. D. Townsend Since 1876 Northstar, Michigan

The Hubbard APIARIES

WRITE FOR FREE CATALOG

Quality Bee Supplies Factory Prices

Prompt Shipment from Stock

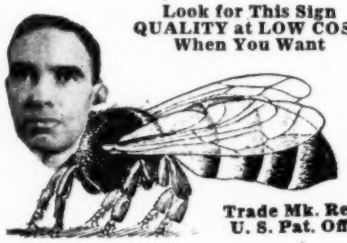
Satisfaction Guaranteed

THE HUBBARD APIARIES

Manufacturers of Bee Supplies

ONSTED, MICHIGAN

Look for This Sign
QUALITY at LOW COST
When You Want



Trade Mk. Reg. U. S. Pat. Off.

KELLEY—"The Bee Man"

Glass - Tin

16 oz. Economy Jars, carton 24 each,	$0.70
32 oz. Economy Jars, carton 12 each,	.42
5 lb. Economy Jars, 12 cartons	5.00
24 cartons	9.95
60 lb. Square tin cans, carton of 16	5.40

Quick shipment from large Paducah stock

THE WALTER T. KELLEY CO.

Paducah, Kentucky

LOWER PRICES: QUEENS QUEENS QUEENS

NOT CHEAP QUEENS BUT QUEENS OF THE BEST AT A CHEAP PRICE

Now is the time to requeen with the best Italian queens of proven quality. Safe arrival and satisfaction guaranteed in every respect

QUEENS
75c each
By return mail

2-lb. pkg. with queen, $3.00 each
3-lb. pkg. with queen, 4.00 each
Package bees F. O. B. express; if wanted by parcel post, add postage

NORMAN BROS.' APIARIES, RAMER, ALA.

BETTER-BRED QUEENS---Three-Banded Italians

We are breeding from some record breaking queens, "better than ever". Rush orders filled promptly. Remainder of season, 75c each, any quantity.

CALVERT APIARIES, Calvert, Alabama

QUEENS

ITALIANS — Daughters of Queens bred for Resistance
CAUCASIANS — Bred to Italian Drones

QUEENS balance of this year $1.00 each. Send for Free Circular.
2 lb. pkg. bees with queen, $4.00; 3-lb. pkg. with queen, $5.00
Over 25 years a shipper in U. S. A. and Canada.

BLUE BONNET APIARIES, Route 1, Box 70, Mercedes, Texas

Honey Containers

GLASS JARS . . . TIN PAILS
60 POUND CANS
WINDOW CARTONS . . . CELLOPHANE WRAPPERS
LABELS . . . HONEY FOLDERS
WRITE FOR LOCAL PRICES

Shipping conditions are such and supply of containers are such that you should place your order at once.

The A. I. Root Co., Medina, Ohio

12 W. 21st St., New York, 10, N. Y.

The A. I. Root Co., of Iowa
Council Bluffs, Ia.

A. I. Root Co., of Chicago
224 W. Huron St., Chicago, 10, Ill.

A. I. Root Co., of Indianapolis
121 No. Alabama St.,
Indianapolis, 4, Ind.

A. I. Root Co., of Syracuse
1112 Erie Blvd., East,
Syracuse, N. Y.

Thanks to All

who have patronized us this season as well as in the past. We have done our best to maintain our our high Quality and Service in face of a capacity business and shortages of materials and labor.

We also have done our best to instill the home loving instinct in our bees so if they wander away from home do not blame us, as they were all reluctant to leave their parent colony and had to be forcibly placed in the package for shipment. Some even found ways to escape. Seriously, though, we hope you will pardon any mistakes we have made as they are bound to occur in the haste incident to shipping bees this year.

Rossman & Long

Box 133 **Moultrie, Ga.**

MACK'S QUEENS

(They Speak for Themselves)

Big, hardy Northern Bred Italians that are reared to please the most particular beekeeper. So gentle and docile that gloves and veils are taboo with us. A breeder since 1916 and all queens fully guaranteed.

Price balance of season $1.00 each, postpaid.

Herman McConnell

(The Bee & Honey Man)

ROBINSON Rt. 2 ILLINOIS

KNIGHT'S Leather Colored Italian Queens

• • •

The best honey gatherers.

Prices:	**1 to 24,**	**$1.00 each**
	25 to 99,	**.85 "**
	100	**.80 "**

All queens guaranteed mated pure.

NO CHARGE FOR CLIPPING QUEENS

• • •

Jasper Knight

Hayneville, Ala.

CHOICE ITALIAN QUEENS and package bees.

We have been furnishing queens and package bees through other shippers. Let us furnish yours direct. Write for prices.

CLIFTON APIARIES

P. O. Box 684, Oroville, Calif.

THRIFTY QUEENS

Prompt shipment
Three-banded Italians only.
1 to 24, $1.00; 25 to 99, 90c; 100 up, 80c each.
THRIFTY bees are guaranteed to please.
W. J. FOREHAND & SONS
Fort Deposit, Alabama
Breeders Since 1892

ITALIAN QUEENS
Bred for Prolificness only.
1 to 4, $1.00; 10 to 19 each, .90 p. p.
5 to 9, $0.95; 20 to 49 each, .80 p. p.
50 to 100, each 75 cents
Air Mail .08 extra.
For larger amounts, write for prices. No C. O. D.
PLAUCHE BEE FARM
Hamburg, Louisiana

LOOK THIS SITUATION IN THE EYE

...Protect Your Own Future by Selling Your Current Honey to a Reputable, Famous-Brand Honey Packer

THIS year is a critical year to every Beekeeper in the land . . . whether or not he knows it.

Because of a shortage of honey to support them, the very existence of America's famous, long-established honey brands is threatened.

These famous honey brands . . . built through the years by hard work and the expenditure of many thousands of advertising dollars . . . are the very backbone of America's honey industry. They form the permanent, stable and bed-rock market . . . the market upon which all Beekeepers must depend for future sales and profits.

Should these brands . . . through lack of honey . . . be allowed to disappear from dealers' shelves and counters, the whole industry would face disaster.

This is the situation which today every Beekeeper should look squarely in the eye.

The picture is not overpainted. It is real, menacing. But, for that very reason, it offers the far-seeing Beekeeper a chance to protect his own future with his present honey crop if he will act . . . and act now.

Sell Your Honey Where It Will Do You The Most Good

Again this year a swarm of buyers is out seeking the product of your hives.

But, if you're wise, you'll sell your honey only where it will do you *permanent* good.

You'll sell every pound you can to help maintain some well-known, established brand.

By so doing, you not only will get the profits from immediate sales. But you will go a long way toward establishing for yourself a friendly and lasting market connection that should pay dividends through coming years.

How Much Honey Can You Spare for One of These Packers Now?

In your own best interest, think over the above facts and then decide to do something about them.

Each of the Packers listed below has a celebrated honey brand which housewives recognize as honey of highest quality . . . honey whose flavor and goodness they can trust *every time.*

Each of these Packers is eager . . . right now . . . for your honey to maintain these brands.

Won't you take the time now to write one of these Packers immediately and tell him how much honey he may count upon from you.

You'll get top OPA ceiling prices. You'll be using your honey in the wisest way to safeguard your own sales long after this present boom honey market is but a memory.

The Following Established Packers Invite Your Valued Cooperation:

H. J. HEINZ COMPANY
Pittsburgh, Pa.

THE JOHN G. PATON COMPANY, INC.
New York City

THE SIOUX HONEY ASSOCIATION
Sioux City, Iowa

SUPERIOR HONEY COMPANY
Los Angeles, Calif.

C. W. AEPPLER COMPANY
Oconomowoc, Wis.

T. W. BURLESON & SON
Waxahachie, Texas

B-Z-B HONEY COMPANY
Alhambra, Calif.

PETTIT'S PACKAGE BEES AND QUEENS

• • •

Have you read what Deyell and Gooderham say in June Gleanings about wintering queens in nuclei? If not, look it up. Then order Pettit's queens FOR NOW. Requeen and make those nuclei to winter over.

1-23, .90 ea., 24-99, .85 ea., 100-up, .80 ea.

Canadians please note we can no longer accept payment at Georgetown, Ont. Send with order Money Order payable at Tifton.

For next Spring order package bees without queens to build up those wintered nuclei, or packages with queens to make more increase.

Orders booked now without deposits subject to agreement on prices in November.

• • •

Morley Pettit

Tifton, Georgia, U. S. A.

JENSEN'S

"Magnolia State" Strain Italians. Most ideal conditions have been and are prevailing for production of the finest queens. In fact, the "cream of the crop" is now available. Demand has kept pace with production, thus keeping the ball rolling. Good honey flows from several sources have made up for adverse conditions earlier in the season.

Labor of requeening or introduction is the same whether you use good or poor queens, so why not use the best? We challenge the world to surpass us in Quality Queens. We guarantee: Purity of stock, real performance, and freedom from disease.

Prices: 1-24, $1.05; 25-99, $1.00; 100 and up .95 each.

Jensen's Apiaries

Macon, Miss.

YORK'S PACKAGE BEES AND QUEENS

QUALITY BRED ITALIANS

The rush for package bees has ceased for the season. Our greatest handicap was the long drawn out rainy season all spring, plus the help shortage which delayed shipping to some extent, and we are very sorry this had to happen. A large number of orders had to be returned as we were booked up by early spring and in no position to accept further orders.

Some have already booked orders for 1945 and others are requesting information on early booking. To this, we are willing to book your order now subject to prevailing prices in the spring of 1945. We are not urging you to book now, but it may be advisable to do so as the trend seems to indicate an early sell out.

For the balance of this season we will continue to supply a limited number of packages of bees and queens at following prices.

Untested Italian Queens .... $1.10 each
2-lb. pkgs. of bees with queens $3.65 each
3-lb. pkgs. of bees with queens $4.75 each

Prompt Shipments

York Bee Company

JESUP, GEORGIA. U. S. A.

(The Universal Apiaries)

Italian Queens

1-24 ..... $1.00 each
24-99 ..... .90 each
100 or more ..... .80 each

I can furnish queens until late fall.

Sullivan's Apiaries

Gilbertown, Ala.

NORTHERN BRED

Leather Colored Italian Queens
Daughters of Queens bred for resistance.
$1.00 each

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Northern Bred for business, safe arrival

47 years breeding experience

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Select, $1.25

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Formerly of Brookville, Pa.

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QUEENS: Daughters of Stock Bred for Resistance

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100 and up	3.05	4.05	.75

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Paducah, Kentucky

QUEENS

Another package season is behind us and we have had our ups and downs. First, our bees were in the best shape during March and early April that we can ever remember. Then came the Rains, with attendant floods and cold weather. We lost about 200 colonies by being washed away, but this was only minor compared to the damage it did to our Queen Yards. Virgins couldn't mate; they would stay in the nuclei several days overtime, then finally go out and get lost. This cut our production to about 50 per cent for about a month and we found ourselves in the unenviable position of having plenty of bees, some trying to swarm, almost all needing feed, orders due to be shipped, and no queens. However, on May 6th we had our last frost and since then we have had nice weather. We were late shipping some orders. If yours was one we are sorry and want you to know that we were doing our utmost all the time.

We can now handle any reasonable sized orders for Queens At Once and will appreciate your business.

PRICES ON QUEENS

Lots of:	**1 to 24**	**$ .90 each**
	25 to 99	**.85 each**
	100 or more	**.80 each**

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—And finally send for price list covering all these items.

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